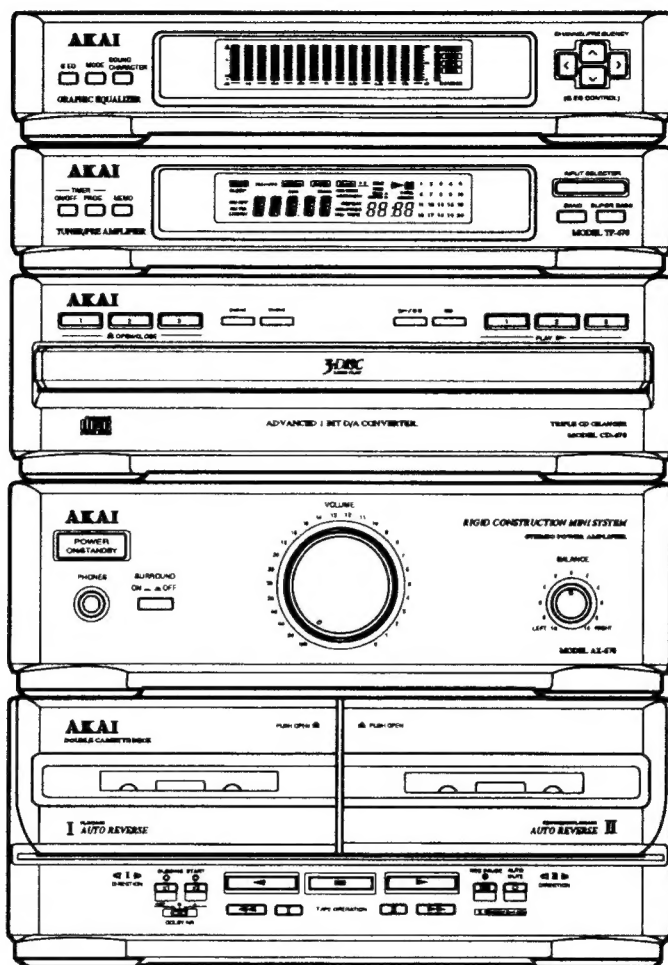


AKAI SERVICE MANUAL



COMPACT
disc
DIGITAL AUDIO

SYSTEM MX-670

MINI COMPONENT SYSTEM

MX-570

(AX-570/CD-670/TP-570)

MX-670

(AX-670/CD-670/TP-670)

TABLE OF CONTENTS

SAFETY INSTRUCTIONS	3
INFORMATION	4

MODEL TP-570/670

SPECIFICATIONS	5
I. DISASSEMBLY	6
II. PRINCIPAL PARTS LOCATION	7
III. ADJUSTMENT	8
3-1. INSTRUMENT CONNECTIONS	8
3-2. HOW TO CALL THE PRESET FREQUENCY FOR THE ADJUSTMENT	9
3-2. ADJUSTMENT	10
IV. PARTS LIST	11
INDEX	17
ABBREVIATION (TUNER)	19

MODEL AX-570/670

SPECIFICATIONS	21
I. DISASSEMBLY	22
II. PRINCIPAL PARTS LOCATION	23
III. REPLACEMENT OF PRINCIPAL MECHANICAL PARTS	24
3-1. REPLACEMENT OF THE PINCH ROLLER BLOCK	24
3-2. REPLACEMENT OF THE PB HEAD (TAPE I)	24
3-3. REPLACEMENT OF THE REC/PB HEAD (TAPE II)	24
3-4. REPLACEMENT OF THE CAPSTAN MOTOR	24
3-5. REPLACEMENT OF THE DRIVE BELT	24
IV. MECHANICAL ADJUSTMENT	25
4-1. ADJUSTMENT OF THE PB HEAD AZIMUTH ALIGNMENT	25
4-2. ADJUSTMENT OF THE REC/PB HEAD AZIMUTH ALIGNMENT	25
V. ELECTRICAL ADJUSTMENT	26
VI. PARTS LIST	27
INDEX	34
ABBREVIATIONS (AMPLIFIER,CASSETTE)	36

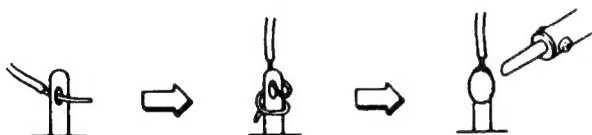
MODEL CD-670

SPECIFICATIONS	37
I. DISASSEMBLY	38
II. PRINCIPAL PARTS LOCATION	39
III. REPLACEMENT OF THE PRINCIPAL PARTS	40
3-1. DISMANTLING PROCEDURE OF THE COMPONENTS	40
3-2. REMOVAL OF THE TRAVERSE MECHA	40
3-3. REMOVAL OF THE MAIN PCB	40
3-4. REMOVAL OF THE TRAY BLOCK	41
3-5. REPLACEMENT OF THE PICK UP BLOCK	41
3-6. REPLACEMENT OF THE SPINDLE MOTOR	41
3-7. REPLACEMENT OF THE SLED MOTOR	42
3-8. REPLACEMENT OF THE LOADING MOTOR	42
3-9. REPLACEMENT OF THE TABLE MOTOR	42
IV. ELECTRICAL ADJUSTMENT	43
V. PARTS LIST	44
INDEX	48
ABBREVIATION (COMPACT DISC)	49

★ SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (*) symbol are critical for safety. Replace them only with the parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with the specified replacements.
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers (insulating barriers)
 - 4) Insulation sheets for transistors
 - 5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap the ends of the wires securely around the terminals before soldering.



6. Make sure that wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder drop-lets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

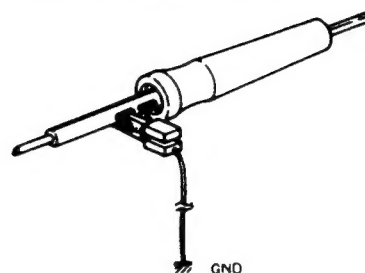
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resistor of 1500 ohms paralleled with a 0.15 μ F capacitor, under the unit's normal working conditions.

The leakage-current should be less than 0.5 mA rms AC. The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 M ohms.

PRECAUTIONS IN REPAIRING

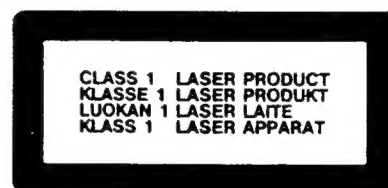
When repairing or adjusting the unit, please note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment, make sure that there are no metal objects in the narrow gap between the P.C. board or the mecha parts and the base.
3. The Micro-Computer and the CD signal processing ICs can be damaged by static electricity or leakage from a soldering iron during repairing. While soldering, please take the precautions against leakage as in the illustration.

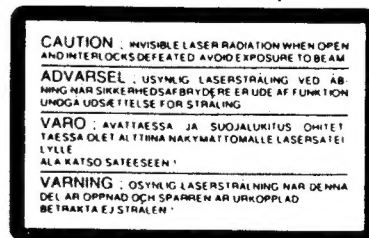



4. Do not loosen any screws in the pick-up block. When handling the pick-up block, please refer to the points to NOTE when replacing the pick up block.
5. To avoid hazardous invisible Laser Radiation, DO NOT look at the Laser Beam (Objective lens) directly.
6. On models for some countries, laser warning labels are affixed on the unit and inside of the unit, as shown below. For your safety, read these labels carefully when repairing or adjusting the unit.

[EUROPE, SCANDINAVIA, UK and AUSTRALIA]



Label affixed on the rear panel of the unit



Label affixed on the reverse side of the rear panel of the unit (Except  model)

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can. Please leave them at an appropriate depot.



★ INFORMATIONS

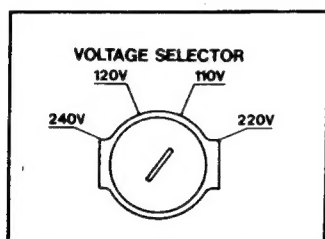
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbol	Principal Destination
B	UK
E	Europe (except UK)
S	Australia
V	Germany
U	Universal
Y*	Custom version

VOLTAGE CONVERSION (**U** Model only)

Before connecting the power cord, set the VOLTAGE SELECTOR located on the rear panel of the AX-570/670 so that the correct voltage for your area is indicated.



PRECAUTION ABOUT THE POWER SUPPLY

The power supply of the CD-670 is supplied from the AX-570/670 through the TP-570/670. TP-570/670's power is supplied from the AX-570/670. Transmission of the system control signal between the TP-570/670 and other components (CD-770 and AX-570/670) is absolutely necessary to control the system. Therefore, when repairing one of the components of this MIDI COMPONENT SYSTEM, all components should normally be connected together. If all components are not available when repairing, the minimum combination of components that will be necessary to turn the power on are as follows.

• TP-570

Connect the two black and red CONTROL CONNECTORS to the AX-570. Then while pressing the TIMER ON/OFF and TIMER MEMORY buttons on the front panel simultaneously, connect the AC POWER CORD to the AC power outlet.

• TP-670

Connect the two black and red CONTROL CONNECTORS to the AX-670. Then connect the AC POWER CORD to the AC power outlet. Next, while pressing the FREQUENCY \wedge and \succ buttons on the front panel simultaneously, press the RESET button on the rear panel. Wait for a few seconds until the direction indicators on the AX-670 stop flashing.

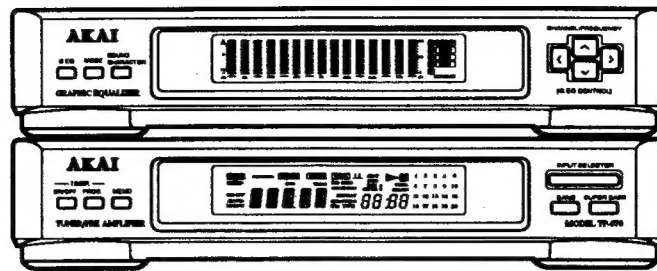
• CD-670

Power for the CD-670 is supplied from the AX-570/670 through the TP-570/670.

Therefore, when repair of the CD-670 is necessary, repair should be made together with the AX-570/670 and TP-570/670.

• AX-570/670

While pressing the \blacktriangleright and \blacktriangleleft buttons simultaneously on the AX-570/670, connect the AC power cord to the AC power outlet. In this case, cassette deck is operable but no sound will be output from the speakers.



MODEL TP-670

TUNER / PRE AMPLIFIER

MODEL TP-570/670

SPECIFICATIONS

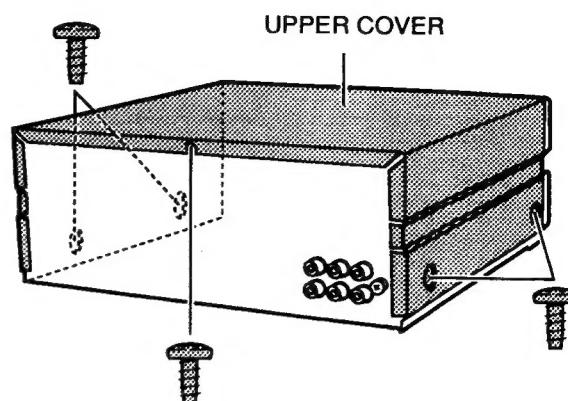
Tuner section	
FM	
Tuning frequency range ..	87.5 to 108MHz
Usable sensitivity	13.2dBf [E/U], 17.2dBf [V] (IHF, 3% THD)
Quieting sensitivity	
Mono	17.2dBf [E/U], 21.2dBf [V]
Stereo	31.2dBf [E/U], 35.2dBf [V]
S/N ratio	
Mono	70dB [E/U], 65dB [V] (IHF)
Stereo	60dB (IHF)
Frequency response	30Hz to 15kHz (±1dB)
Total harmonic distortion	
Mono	0.5% (at 1kHz)
Stereo	0.3% [E/U], 0.7% [V] (at 1kHz)
Selectivity	55dB (±400kHz)
Image rejection	50dB
Stereo separation	45dB (at 1kHz)
Capture ratio	2dB
AM suppression	60dB
Spurious rejection	55dB
IF rejection	90dB
MW	
Tuning frequency range ..	531 to 1602kHz (9kHz step)
[U] version	530 to 1710kHz (10kHz step) (9kHz/10kHz selectable)
Usable sensitivity	500µVm
S/N ratio	36dB
Selectivity	15dB
Image rejection	37dB
IF rejection	40dB
LW	
Tuning frequency range ..	144 to 351kHz [E/U], 144 to 288kHz [V] (1kHz step)
Usable sensitivity	800µVm
S/N ratio	28dB
Selectivity	17dB
Image rejection	33dB
IF rejection	40dB
Amplifier Section	
Super bass effects	+6dB / 60Hz (SB-1) +12dB / 60Hz (SB-2)
Tone control (TP-570 only)	
BASS	± 8dB / 100Hz
TREBLE	± 8dB / 10kHz
Graphic Equalizer (TP-670 only)	
Center frequency	63Hz / 160Hz / 400Hz / 1kHz / 2.5kHz / 6.3kHz / 16kHz
Control range	± 10dB (2dB step)
S/N ratio	97dB (A-weight)
Total harmonic distortion	0.027% (1kHz, flat)
Timer	Quartz lock daily timer (Timer REC / Wake-up / Sleep)
Dimensions	
TP-570	270 (W) x 112 (H) x 310 (D)mm
TP-670	270 (W) x 112 (H) x 302 (D)mm
Weight	
TP-570	2.0kg
TP-670	2.1kg
Standard accessories	
FM long wire antenna	x 1
AM loop antenna	x 1
Plug adaptor	x 1

*For improvement purposes, specifications and design are subject to change without notice.

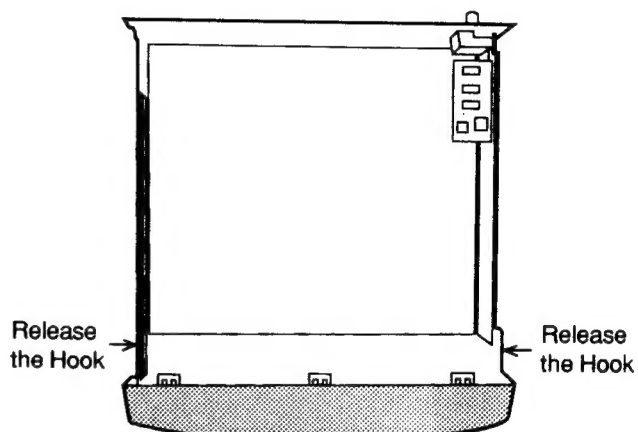
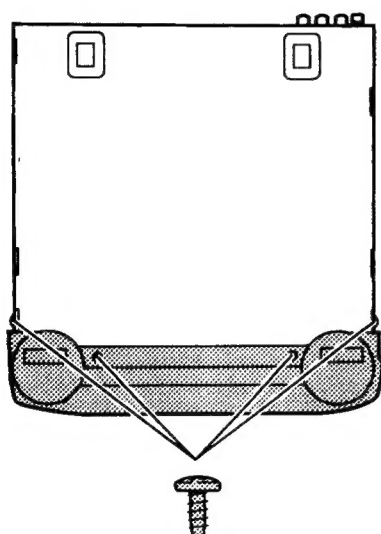
I. DISASSEMBLY

In case of trouble etc., necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in the reverse order.

1. Removal of UPPER COVER



2. Removal of FRONT PANEL



II. PRINCIPAL PARTS LOCATION

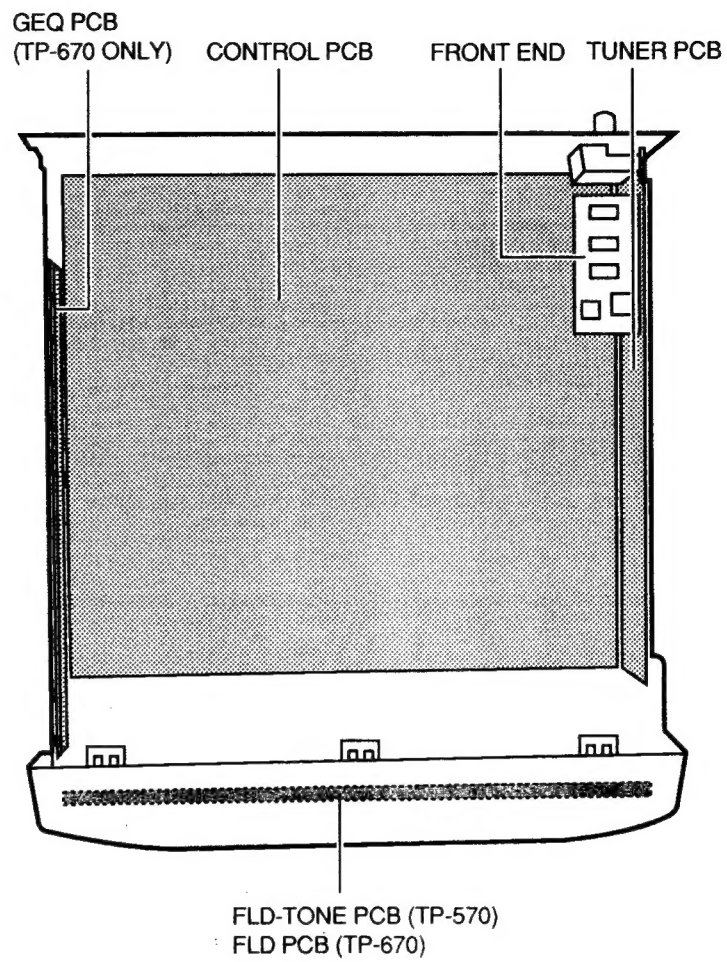


Fig. 2-1 Top view

III. ADJUSTMENT

3-1. INSTRUMENT CONNECTIONS

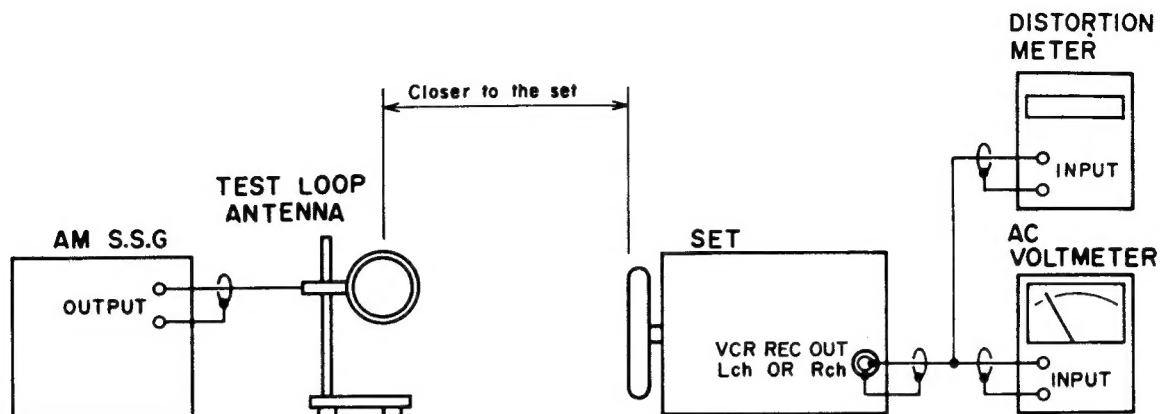


Fig. 3-1 Instrument Connection of AM Adjustment

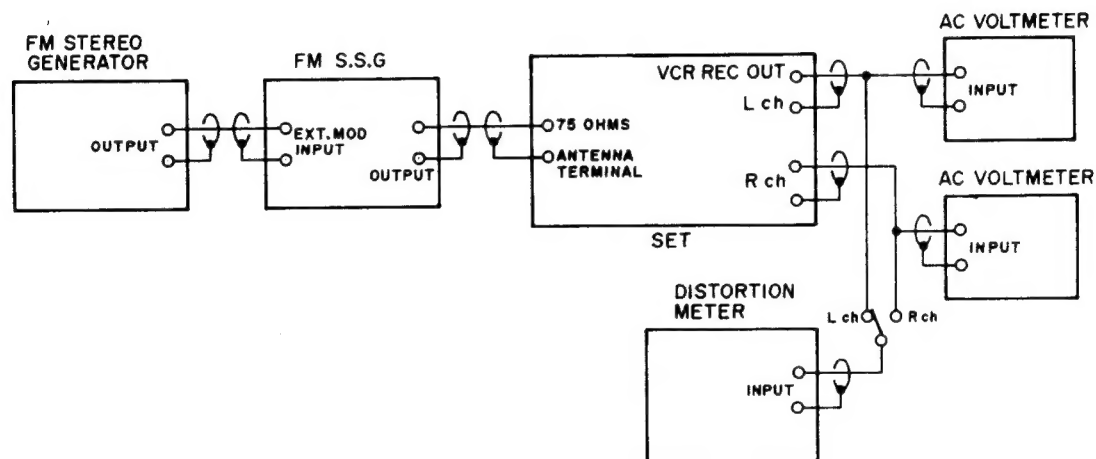


Fig. 3-2 Instrument Connection of FM Adjustment

NOTE:

Before making adjustment, please set the input to "TUNER" mode by pressing the input SELECTOR button on the TP-570/670, then select the tuner band with the BAND button according to the adjustment procedure.

3-2.HOW TO CALL THE PRESET FREQUENCY FOR THE ADJUSTMENT

Preset frequency can be called with the "TUNER/CD 10 KEY" buttons on the remote control (Press the RESET button on the rear panel first to initialize the previous memory). The internal frequency preset memory is set as shown below.

Initial preset frequency for adjustment and inspection.

PRESET ch No.	PRODUCT DESTINATION	
	E, B, U, S	V
1	FM 98.00 MHz AUTO	FM 98.00 MHz AUTO
2	FM 88.00 MHz MONO	FM 88.00 MHz MONO
3	FM 108.00 MHz MONO	FM 108.00 MHz MONO
4	LW 162 kHz	LW 162 kHz
5	LW 297 kHz	LW 288 kHz
6	LW 198 kHz	LW 198 kHz
7	MW 1404 kHz	MW 1404 kHz
8	MW 603 kHz	MW 603 kHz
9	MW 999 kHz	MW 999 kHz
10	LW 351 kHz	LW 288 kHz
11	FM 87.50 MHz MONO	MW 1602 kHz
12	FM 90.00 MHz MONO	FM 90.00 MHz MONO
13	FM 106.00 MHz MONO	FM 106.00 MHz MONO
14	MW 531 kHz	MW 531 kHz
15	MW 1602 kHz	MW 1602 kHz
16	LW 144 kHz	LW 144 kHz
17	LW 288 kHz	
18 to 30	FM 87.50 MHz AUTO	FM 87.50 MHz AUTO

NOTE : ABOUT TUNING STEP CONVERSION (U version only)

The MW frequency band of this tuner is preset to 9kHz tuning intervals. However, the frequencies of MW broadcasts in some countries are set at 10kHz intervals.

If your country uses 10kHz tuning intervals the following tuning step conversion is necessary before you can tune in stations.

1. Turn the amplifier's power on.
2. Press the BAND button until the AM indicator appears on the tuner's FL display
3. Press and hold the BAND button for over 5 seconds until "AM 1710kHz" appears on the FL display. Tuning intervals will now be set to 10kHz.

※ LW frequency band can not be selected with BAND button at MW 10kHz tuning intervals mode.

To reset the tuner to 9kHz tuning intervals :

- Press the RESET button located on the tuner's rear panel with a ball point pen etc.

TP-570, 670

3-3. ADJUSTMENT

NOTE: 1. Set the S.S.G. to 1kHz, 75kHz deviation for **U**, **S**, **B** or **E** model, 1 kHz, 40 kHz deviation for **V** model.

STEP	ADJUSTMENT ITEM
1.	SSG FREQ. & OUTPUT LEVEL
2.	SET Tuning FREQ.
3.	ADJ. Part
4.	REMARKs (●) & RESULT (*)

Test Point Adjustment Part

AM

2 LW SENSITIVITY

- 162kHz, 75dBμ (Low) and 297kHz <288kHz>, 75dBμ (High)
 - 162kHz (preset 4 ch), 297kHz <288kHz> (preset 5 ch).
 - T202 (Low), VC202 (High)
 - Connect the milli-voltmeter to VCR/REC OUT.
- * Maximum output level and minimum distortion.
* For best result, repeat Low and High adjustments several times.

NOTE: 1. Set the S.S.G to 1kHz 30% modulation on each adjustment.
2. Frequencies indicated in < > are for the **V** model.

1 LW OSC

- - 351kHz <288kHz> (preset 10 ch)
 - T204
 - Connect the Digital DC Voltmeter between TP1 and GND.
- * $8.2 \pm 0.1V$ < $5.75 \pm 0.1V$ >.

FM

3 DISTORTION (STEREO)

- 98.0MHz, 60dBμ (STEREO L or R channel only)
 - 98.0MHz (FM AUTO) (preset 1 ch)
 - IFT (FRONT END)
 - Connect the distortion meter to VCR/REC OUT.
- * Minimum Distortion (Never turn the IFT more than 90°)

2 FM TUNED INDICATOR

- 98.0MHz, 18dBμ (MONO)
- 98.0MHz (preset 1 ch)
- Tuning indicator on the front panel, VR101.
- * Tuning indicator is lit.

1 CENTER VOLTAGE

- 98.0MHz, 60dBμ (MONO)
 - 98.0MHz (preset 1 ch)
 - T101
 - Connect the DC Digital Voltmeter to both ends of R108.
- * $0 \pm 50mV$

4 STEREO SEPARATION

- 98.0MHz, 60dBμ (STEREO L or R channel only)
 - 98.0MHz (FM AUTO) (preset 1 ch)
 - VR102
 - Connect the milli-voltmeter to VCR/REC OUT.
- * Minimum output level for opposite channel.

6 MW SENSITIVITY

- 603kHz, 65dBμ (Low) or 1,404kHz, 65dBμ (High)
 - 603kHz (Low), (preset 8 ch)
1,404kHz (High), (preset 7 ch)
 - T201 (Low), VC201 (High)
 - Connect the milli-voltmeter to VCR/REC OUT.
- * Maximum output level and minimum distortion.
* For best result, repeat Low and High adjustments several times.

5 MW OSC

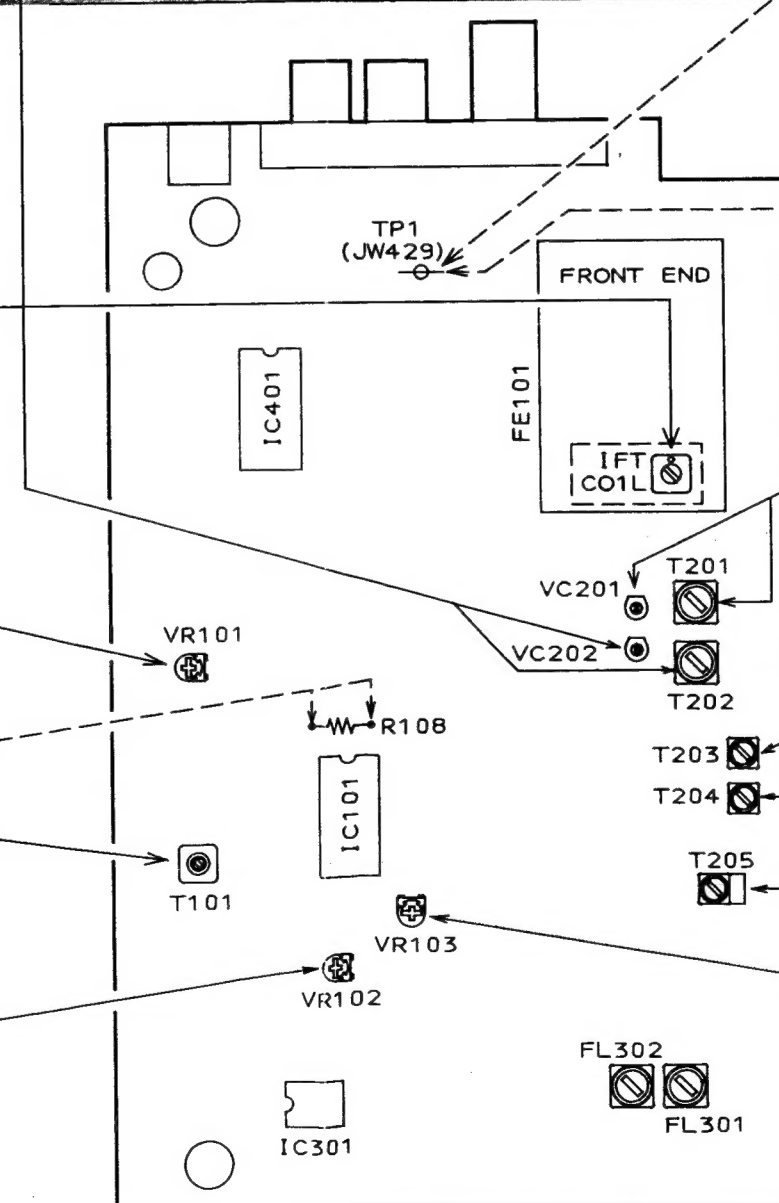
- - 1,404kHz (preset 7 ch)
 - T203
 - Connect the Digital DC Voltmeter between TP1 and GND.
- * $6.7 \pm 0.1V$.

3 AM IF

- 162kHz, 65dBμ
 - 162 kHz (preset 4 ch)
 - T205
 - Connect the milli-voltmeter to VCR/REC OUT.
- * Maximum output level and minimum distortion

4 AM TUNED INDICATOR

- 198kHz, 62dBμ
- 198kHz (preset 6 ch)
- Tuning indicator on the front panel, VR103.
- * Tuning indicator is lit.



FRONT
TUNER PCB

IV. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list the Part No., Model No., and the description of the part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of change, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

Ref. No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

Ref. No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)
[B] : BEAB (England) [U] : U/T (Universal Area)
[C] : CSA (Canada)
[E] : CEE (Europe) [V] : VDE (Germany)
[J] : JPN (Japan) [Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

△ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

△ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	*EC-410588J	C DOUBLE FYD0H474Z 5.5DC
2	ED-394723J	D LED GL3HY44 YELLOW
3	ED-403757J	D LED SEL2913K D,Y1 D,Y2ORANGE
4	ED-307572	D SILICON H 1SS131
5	ED-624903	D SILICON H 1S2473
6	*ED-511907	D SILICON 1N4002 100/1.0A
7	ED-372893	D VARACTOR SVC321SPA A DBL
8	ED-402212J	D ZENER H HZS12A1
9	ED-397289J	D ZENER H HZS20-2
10	ED-367576	D ZENER H HZS5.6B2J
11	ED-389688J	D ZENER H HZS5B2
12	ED-370786	D ZENER H HZS9.1B2J
13	ED-346559	D ZENER H HZ12B2L
14	ED-346560	D ZENER H HZ12B3L
15	ED-337990	D ZENER H HZ27-1L
16	ED-329058	D ZENER H HZ5 C1
17	ED-346531	D ZENER H HZ7A2L
18	ED-351418	D ZENER H HZ7B1L
19	ED-346534	D ZENER H HZ7C1L
20	EE-408686J	FRONT END FE415-G10
21	EH-364919	COMP R RKC8BS 473J
22	EH-408650J	COMP R RYLS7J105 105J
23	EH-394759J	FILTER CE SFE10.7MS2GK-A [U,E]
24	EH-338338	FILTER CE SFE10.7MS3GK-A [V]
25	EH-410605J	FILTER EMI FBA04HA900KE-00 F12 [V]
26	EH-405199J	FILTER LC LP K7-J1YD-0170 [V]
27	EH-408815J	FILTER LC LP 42B-5226-03
28	EI-382660J	IC BA15218-DX
29	EI-387938J	IC HD74LS05P
30	EI-408673J	IC LA1851N
31	EI-408648J	IC LA3607
32	EI-408647J	IC LC7522
33	EI-408645J	IC LC866008A-5199 MXA1GE1
34	EI-354951	IC LM7000N
35	EI-408675J4	IC M38173M6-155FP MXA1TP4
36	EI-213390	IC NJM4558D
37	EI-400756J	IC NJM4558L-B
38	EI-408672J	IC S-80721AN
39	EI-302233	IC TC4051BP
40	EI-332259	IC TC4052BP
41	EI-200573	IC TC4053BP
42	EI-408646J	IC XR1091ECP
43	EI-408674J	OSC CE CSB456F15 19.000KHZ
44	EI-408649J	OSC CE CST12.0MTW 12.000MHZ
45	EI-405327J	OSC CE CST6.00MGW 6.000MHZ
46	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
47	EI-408814M	OSC X'TAL HC-49/U 7200KHZ
48	EM-408410J	IND FL BJ035GK DOUBLE
49	EM-408409J	IND FL 10-MT-44GK CHARACTER
50	EO-408689M	COIL DET 1 499HNAS0078Z10.7MHZ
51	EO-408687J	COIL IFT BCFAZ-024
52	EO-363279	COIL OSC 2 A7NRS-9857X 150.0UH
53	EO-352089	COIL OSC 2 7BRS-9098X 580.0UH
54	EO-408808M	COIL VARI 2 MRHNF-45614A
55	EO-408809M	COIL VARI 2 MRZNF-45615A
56	*EQ-403529J1	RELAY POW 12S MBU524UL3 2NO12V
57	*ER-326169	R FUSE H S10 ERD2FC 1/4W 22R0G
58	*ER-331619	R FUSE H S10 ERD2FC 1/4W 39R0G
59	*ER-318647	R FUSE H S10 ERD2FC 1/4W 4R7J
60	*ER-318248	R FUSE H S10 ERD2FC 1/4W 47R0G
61	*ER-386215J	R OMF H S12 FS 1W 220J
62	*ER-408692J	R OMF H S15 FS 2W 390J
63	ES-408641J	SW TACT EVQ 233 07K T05
64	ES-362883	SW TACT SKHLM
65	ET-411995J	DETECTOR GP1U581X
66	ET-356336	TR DTA114ES
67	ET-369248	TR DTA114YS
68	ET-354370	TR DTA124ES
69	ET-354415	TR DTA144ES
70	ET-353897	TR DTC114ES

Ref. No.	Part No.	Description
71	ET-354371	TR DTC124ES
72	ET-373392	TR DTC124XS
73	ET-354364	TR DTC143TS
74	ET-354414	TR DTC144ES
75	ET-354094	TR DTC144WS
76	ET-349458	TR FET 2SK192A Y
77	ET-337759	TR FET 2SK246 GR
78	ET-353899	TR 2SA1317 S,T,U
79	*ET-366365	TR 2SB1185 E,F
80	ET-400965J	TR 2SB1357 E,F T05
81	ET-397160J	TR 2SC3330 R,S,T,U,V
82	ET-361736	TR 2SC3576
83	ET-394735J	TR 2SC3792 T05
84	ET-356437	TR 2SC930 D2,E,F
85	*ET-366581	TR 2SD1762 E,F
86	*ET-373025	TR 2SD1944 J1,J2,K
87	ET-401091J	TR 2SD2144S U,V,W T05
88	ET-396072J	TR 2SD2159 V,W
89	EV-408643J	VR ROTARY RK14K1240L=15 B103X2
90	EV-408642J	VR ROTARY RK14K1240L=20 B103X2
91	EW-408817J2	CORD A6007 L=160 13P
92	EW-408816J2	CORD A6007 L=160 9P
93	EW-408681J1	WIRE ASSY HFG0711-5201L530 11P
94	EW-408676J	WIRE ASSY HFG07157601 L580 15P
95	EW-408679J	WIRE ASSY 52305-1411 L=650 14P

2. P.C BOARD BLK

Ref. No.	Part No.	Description
1A	BA-A6007T030A	ML PC (#) TU-PRE BLK TP-550 (U)/ML [TP-570]
1B	BA-A6007T030B	ML PC (#) TU-PRE BLK TP-550 (E)/ML [TP-570]
1C	BA-A6007T035A	ML PC (#) TU-PRE BLK TP-570 (V)/ML
1D	BA-A6007T030D	ML PC (#) TU-PRE BLK TP-650 (U)/ML [TP-670]
1E	BA-A6007T030E	ML PC (#) TU-PRE BLK TP-650 (E)/ML [TP-670]
1F	BA-A6007T035B	ML PC (#) TU-PRE BLK TP-670 (V)/ML
2	BA-A6007T040A	ML PC FL-TON BLK TP-550/ML [TP-570]
3A	BA-A6008T050C	ML PC (#) FL-GEQ BLK TP-670 (E)/ML [U,E]
3B	BA-A6008T050D	ML PC (#) FL-GEQ BLK TP-670 (V)/ML [V]

PC (#) TU-PRE BLK CONSISTS OF FOLLOWING P.C BOARDS.

- TUNER P.C BOARD
- CONTROL P.C BOARD

PC (#) FL-GEQ BLK CONSISTS OF FOLLOWING P.C BOARDS.

- FLD P.C BOARD
- GEQ P.C BOARD

3. TUNER P.C BOARD

Ref. No.	Part No.	Description
D101	ED-307572	D SILICON H 1SS131
D201	ED-372893	D VARACTOR SVC321SPA A DBL
D202	ED-372893	D VARACTOR SVC321SPA A DBL
D203	ED-307572	D SILICON H 1SS131
D204	ED-307572	D SILICON H 1SS131
D401	ED-367576	D ZENER H HZS5.6B2J
D402	ED-307572	D SILICON H 1SS131
D403	ED-307572	D SILICON H 1SS131
D404	ED-307572	D SILICON H 1SS131
D405	ED-370786	D ZENER H HZS9.1B2J
D406	ED-389688J	D ZENER H HZS5B2
FE101	EE-408686J	FRONT END FE415-G10
FL102A	EH-394759J	FILTER CE SFE10.7MS2GK-A [U,E]
FL102B	EH-338338	FILTER CE SFE10.7MS3GK-A [V]
FL103A	EH-394759J	FILTER CE SFE10.7MS2GK-A [U,E]

Ref. No.	Part No.	Description
FL103B	EH-338338	FILTER CE SFE10.7MS3GK-A [V]
FL104	EH-405199J	FILTER LC LP K7-J1YD-0170 [V]
FL105	EH-410605J	FILTER EMI FBA04HA900KE-00 F12 [V]
FL301	EH-408815J	FILTER LC LP 42B-5226-03
FL302	EH-408815J	FILTER LC LP 42B-5226-03
IC101	EI-408673J	IC LA1851N
IC301	EI-213390	IC NJM4558D
IC401	EI-354951	IC LM7000N
L101	EO-357539	COIL FIX 1 EL0606RA T05 222K
L301	EO-353588	COIL FIX 1 LAP02 F05 2R2K [V]
L302	EO-353588	COIL FIX 1 LAP02 F05 2R2K [V]
R107	ER-324184	R CB H S10 FS RDS 1/4W 121J
R108	ER-333387	R CB H S10 FS RDS 1/4W 223J
R425	*ER-318647	R FUSE H S10 ERD2FC 1/4W 4R7J
T101	EO-408689M	COIL DET 1 499HNAS0078Z10.7MHZ
T201	EO-408808M	COIL VARI 2 MRHNF-45614A
T202	EO-408809M	COIL VARI 2 MRZNF-45615A
T203	EO-363279	COIL OSC 2 A7NRS-9857X 150.0UH
T204	EO-352089	COIL OSC 2 7BR5-9098X 580.0UH
T205	EO-408687J	COIL IFT BCF4Z-024
TM1	EJ-359031	TERMINAL LEVER YKD31-0215 P 2P
TR101	ET-356437	TR 2SC930 D2,E,F
TR102	ET-397160J	TR 2SC3330 R,S,T,U,V
TR201	ET-349458	TR FET 2SK192A Y
TR202	ET-394735J	TR 2SC3792 T05
TR203	ET-353897	TR DTC114ES
TR401	ET-337759	TR FET 2SK246 GR
TR402	ET-397160J	TR 2SC3330 R,S,T,U,V
TR403	ET-354094	TR DTC144WS
TR404	ET-354094	TR DTC144WS
TR405	ET-354094	TR DTC144WS
TR406	ET-353899	TR 2SA1317 S,T,U
TR407	ET-353899	TR 2SA1317 S,T,U
TR408	ET-396072J	TR 2SD2159 V,W
VC201	EC-337603	C S-FIX H VCT51F 5.5-30
VC202	EC-356284	C S-FIX H VCT51G 7.5- 50
VR101	EV-358829	R S-FIX H RH0615C 0.10W 223
VR102	EV-356576	R S-FIX H RH0615C 0.10W 472
VR103	EV-356576	R S-FIX H RH0615C 0.10W 472
X101	EI-408674J	OSC CE CSB456F15 19.000KHZ
X401	EI-408814M	OSC X'TAL HC-49/U 7200KHZ

4. CONTROL P.C BOARD

Ref. No.	Part No.	Description
C764	*EC-346868	C CE V T05 F 473Z 50DC
C765	*EC-346868	C CE V T05 F 473Z 50DC
C766	*EC-346868	C CE V T05 F 473Z 50DC
C767	*EC-346868	C CE V T05 F 473Z 50DC
C801	*EC-410588J	C DOUBLE FYD0H474Z 5.5DC
D701	ED-346534	D ZENER H HZ7C1L
D702	ED-346534	D ZENER H HZ7C1L
D751	*ED-511907	D SILICON 1N4002 100/1.0A
D752	*ED-511907	D SILICON 1N4002 100/1.0A
D753	*ED-511907	D SILICON 1N4002 100/1.0A
D754	*ED-511907	D SILICON 1N4002 100/1.0A
D755	ED-346559	D ZENER H HZ12B2L
D756	ED-346560	D ZENER H HZ12B3L
D757	*ED-511907	D SILICON 1N4002 100/1.0A
D758	*ED-511907	D SILICON 1N4002 100/1.0A
D759	*ED-511907	D SILICON 1N4002 100/1.0A
D760	ED-337990	D ZENER H HZ27-1L
D761	*ED-511907	D SILICON 1N4002 100/1.0A
D762	*ED-511907	D SILICON 1N4002 100/1.0A
D763	ED-351418	D ZENER H HZ7B1L
D764	ED-346531	D ZENER H HZ7A2L
D765	*ED-511907	D SILICON 1N4002 100/1.0A
D766	ED-511907	D SILICON 1N4002 100/1.0A
D767	ED-511907	D SILICON 1N4002 100/1.0A
D768	ED-329058	D ZENER H HZ5 C1
D801	ED-307572	D SILICON H 1SS131
D802	ED-307572	D SILICON H 1SS131
D803	ED-307572	D SILICON H 1SS131
D804	ED-307572	D SILICON H 1SS131

Ref. No.	Part No.	Description
D805	ED-307572	D SILICON H 1SS131
D807	ED-307572	D SILICON H 1SS131 [U]
D808	ED-307572	D SILICON H 1SS131 [V]
D809	ED-307572	D SILICON H 1SS131 [670]
D811	ED-511907	D SILICON 1N4002 100/1.0A
D812	ED-511907	D SILICON 1N4002 100/1.0A
D813	ED-307572	D SILICON H 1SS131
D814	ED-511907	D SILICON 1N4002 100/1.0A
D815	ED-307572	D SILICON H 1SS131
D821	ED-397289J	D ZENER H HZS20-2
D822	ED-307572	D SILICON H 1SS131
FL106	EH-410605J	FILTER EMI FBA04HA900KE-00 F12 [V]
IB801	EH-364919	COMP R RKC8BS 473J
IC501	EI-302233	IC TC4051BP
IC502	EI-200573	IC TC4053BP
IC601	EI-302233	IC TC4051BP
IC602	EI-200573	IC TC4053BP
IC701	EI-382660J	IC BA15218-DX
IC702	EI-400756J	IC NJM4558L-B
IC703	EI-400756J	IC NJM4558L-B
IC704	EI-332259	IC TC4052BP
IC801	EI-408675J4	IC M38173M6-155FP MXA1TP4
IC802	EI-387938J	IC HD74LS05P
IC804	EI-408672J	IC S-80721AN
J11A	EJ-408669J	PIN J T6060AABF W/SHIELD 6P [U,E]
J11B	EJ-408668J	PIN J T5916-AABH 6P [V]
R751	*ER-386215J	R OMF H S12 FS 1W 220J
R752	*ER-386215J	R OMF H S12 FS 1W 220J
R759	*ER-386215J	R OMF H S12 FS 1W 220J
R764	*ER-326169	R FUSE H S10 ERD2FC 1/4W 22ROG
R765	*ER-408692J	R OMF H S15 FS 2W 390J
TR501	ET-394735J	TR 2SC3792 T05
TR502	ET-394735J	TR 2SC3792 T05
TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
TR601	ET-394735J	TR 2SC3792 T05
TR602	ET-394735J	TR 2SC3792 T05
TR612	ET-397160J	TR 2SC3330 R,S,T,U,V
TR752	*ET-373025	TR 2SD1944 J1,J2,K
TR753	ET-353899	TR 2SA1317 S,T,U
TR754	*ET-366365	TR 2SB1185 E,F
TR755	ET-353899	TR 2SA1317 S,T,U
TR756	*ET-366365	TR 2SB1185 E,F
TR757	ET-397160J	TR 2SC3330 R,S,T,U,V
TR758	*ET-366581	TR 2SD1762 E,F
TR759	ET-397160J	TR 2SC3330 R,S,T,U,V
TR760	ET-353899	TR 2SA1317 S,T,U
TR761	ET-353899	TR 2SA1317 S,T,U
TR801	ET-354371	TR DTC124ES
TR802	ET-354371	TR DTC124ES
TR803	ET-354371	TR DTC124ES
TR804	ET-354371	TR DTC124ES
TR805	ET-354371	TR DTC124ES
TR806	ET-353897	TR DTC114ES
TR807	ET-354371	TR DTC124ES
TR808	ET-354370	TR DTA124ES
TR809	ET-373392	TR DJC124XS
TR810	ET-369248	TR DTA114YS
TR811	ET-353897	TR DTC114ES
TR812	ET-354370	TR DTA124ES
TR815	ET-353899	TR 2SA1317 S,T,U
TR816	ET-354371	TR DTC124ES
TR817	ET-356336	TR DTA114ES
TR818	ET-401091J	TR 2SD2144S U,V,W T05
TR819	ET-401091J	TR 2SD2144S U,V,W T05
TS801	ES-362883	SW TACT SKHLM
W1	EW-408676J	WIRE ASSY HFG071576O1 L580 15P
W2	EW-408679J	WIRE ASSY 52305-1411 L=650 14P
W3	EW-408681J1	WIRE ASSY HFG0711-5201L530 11P
X801	EI-405327J	OSC CE CST6.00MGW 6.000MHZ
X802	EI-368825M	OSC X'TAL C-002RX 32768KHZ

5. FLD/TONE P.C BOARD (TP-570)

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D5	ED-307572	D SILICON H 1SS131
D6	ED-307572	D SILICON H 1SS131
D7	ED-403757J	D LED SEL2913K D,Y1 D,Y2ORANGE
D8	ED-403757J	D LED SEL2913K D,Y1 D,Y2ORANGE
D9	ED-403757J	D LED SEL2913K D,Y1 D,Y2ORANGE
D10	ED-307572	D SILICON H 1SS131
IC1	EI-400756J	IC NJM4558L-B
IC2	EI-400756J	IC NJM4558L-B
IN1	EM-408409J	IND FL 10-MT-44GK CHARACTER
PH1	ET-411995J	DETECTOR GP1U581X
TR1	ET-353899	TR 2SA1317 S,T,U
TS1	ES-408641J	SW TACT EVQ 233 07K T05
TS2	ES-408641J	SW TACT EVQ 233 07K T05
TS3	ES-408641J	SW TACT EVQ 233 07K T05
TS4	ES-408641J	SW TACT EVQ 233 07K T05
TS5	ES-408641J	SW TACT EVQ 233 07K T05
TS6	ES-408641J	SW TACT EVQ 233 07K T05
TS7	ES-408641J	SW TACT EVQ 233 07K T05
TS8	ES-408641J	SW TACT EVQ 233 07K T05
TS9	ES-408641J	SW TACT EVQ 233 07K T05
TS10	ES-408641J	SW TACT EVQ 233 07K T05
VR1	EV-408642J	VR ROTARY RK14K1240L=20 B103X2
VR2	EV-408643J	VR ROTARY RK14K1240L=15 B103X2
W2	EW-408817J2	CORD A6007 L=160 13P
W3	EW-408817J2	CORD A6007 L=160 13P
W4	EW-408816J2	CORD A6007 L=160 9P

6. FLD P.C BOARD (TP-670)

Ref. No.	Part No.	Description
D101	ED-624903	D SILICON H 1S2473
D102	ED-624903	D SILICON H 1S2473
D103	ED-624903	D SILICON H 1S2473
D104	ED-624903	D SILICON H 1S2473
D105	ED-307572	D SILICON H 1SS131
D106	ED-307572	D SILICON H 1SS131
D107	ED-307572	D SILICON H 1SS131
D108	ED-307572	D SILICON H 1SS131
D109	ED-394723J	D LED GL3HY44 YELLOW
D110	ED-307572	D SILICON H 1SS131
D111	ED-307572	D SILICON H 1SS131
IC101	EI-408645J	IC LC866008A-5199 MXA1GE1
IN101	EM-408409J	IND FL 10-MT-44GK CHARACTER
IN102	EM-408410J	IND FL BJ035GK DOUBLE
PH101	ET-411995J	DETECTOR GP1U581X
TR102	ET-354414	TR DTC144ES
TR103	ET-356336	TR DTA114ES
TR105	ET-354364	TR DTC143TS
TR106	ET-361736	TR 2SC3576
TR107	ET-361736	TR 2SC3576
TR108	ET-354414	TR DTC144ES
TS101	ES-408641J	SW TACT EVQ 233 07K T05
TS102	ES-408641J	SW TACT EVQ 233 07K T05
TS103	ES-408641J	SW TACT EVQ 233 07K T05
TS104	ES-408641J	SW TACT EVQ 233 07K T05
TS105	ES-408641J	SW TACT EVQ 233 07K T05
TS106	ES-408641J	SW TACT EVQ 233 07K T05
TS107	ES-408641J	SW TACT EVQ 233 07K T05
TS108	ES-408641J	SW TACT EVQ 233 07K T05
TS109	ES-408641J	SW TACT EVQ 233 07K T05
TS110	ES-408641J	SW TACT EVQ 233 07K T05
TS111	ES-408641J	SW TACT EVQ 233 07K T05
TS112	ES-408641J	SW TACT EVQ 233 07K T05
TS113	ES-408641J	SW TACT EVQ 233 07K T05
W101	EW-408816J2	CORD A6007 L=160 9P
W102	EW-408817J2	CORD A6007 L=160 13P
W103	EW-408817J2	CORD A6007 L=160 13P
X101	EI-408649J	OSC CE CST12.0MTW 12.000MHZ

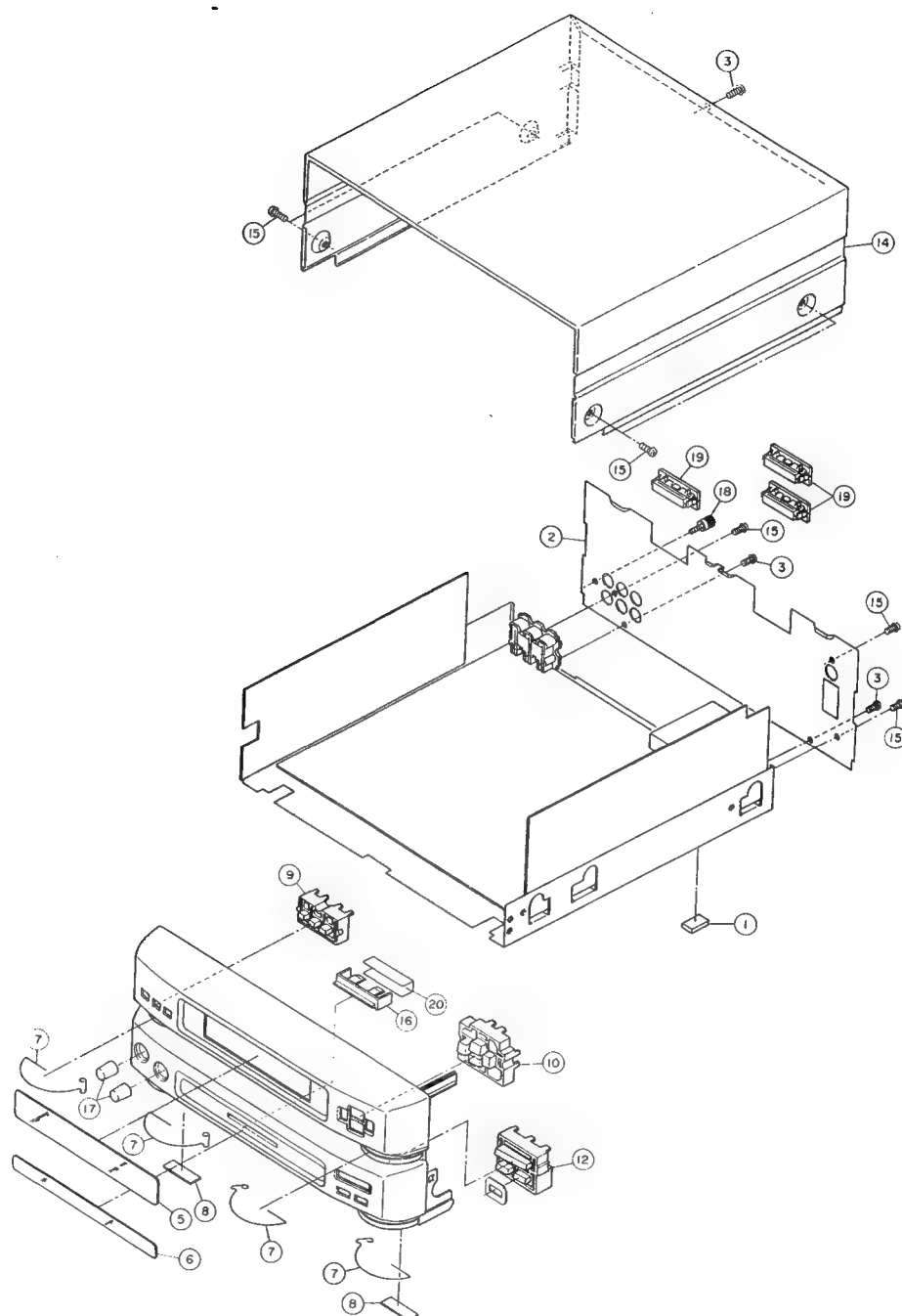
7. GEQ P.C BOARD (TP-670)

Ref. No.	Part No.	Description
D201	ED-511907	D SILICON 1N4002 100/1.0A
D202	ED-511907	D SILICON 1N4002 100/1.0A
D203	ED-511907	D SILICON 1N4002 100/1.0A
D204	ED-511907	D SILICON 1N4002 100/1.0A
D205	ED-408807J	D ZENER H HZS12C3
D206	ED-408807J	D ZENER H HZS12C3
D207	ED-397103J	D ZENER H HZS6A1
FR201	*ER-331619	R FUSE H S10 ERD2FC 1/4W 39R0G
FR202	*ER-318248	R FUSE H S10 ERD2FC 1/4W 47R0G
IB201	EH-408650J	COMP R RYLS7J105 105J
IB202	EH-408650J	COMP R RYLS7J105 105J
IC201	EI-408647J	IC LC7522
IC202	EI-408648J	IC LA3607
IC203	EI-408648J	IC LA3607
IC204	EI-400756J	IC NJM4558L-B
IC205	EI-408646J	IC XR1091ECP
IC206	EI-332259	IC TC4052BP
TR201	ET-394735J	TR 2SC3792 T05
TR202	ET-394735J	TR 2SC3792 T05
TR203	ET-356336	TR DTA114ES
TR204	ET-354414	TR DTC144ES
TR205	ET-366581	TR 2SD1762 E,F
TR206	ET-400965J	TR 2SB1357 E,F T05
TR207	ET-353899	TR 2SA1317 S,T,U
TR208	ET-353899	TR 2SA1317 S,T,U
TR209	ET-354414	TR DTC144ES

8. SUB P.C BOARD ([V] MODEL ONLY)

Ref. No.	Part No.	Description
D1	ED-402212J	D ZENER H HZS12A1
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
RL1	*EQ-403529J1	RELAY POW 12S MBU524UL3 2NO12V
TR1	ET-366581	TR 2SD1762 E,F
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V
TR4	ET-397160J	TR 2SC3330 R,S,T,U,V
TR5	ET-354415	TR DTA144ES
TR6	ET-354415	TR DTA144ES
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-354415	TR DTA144ES
TR10	ET-354415	TR DTA144ES
TR11	ET-397160J	TR 2SC3330 R,S,T,U,V
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V
TR13	ET-354414	TR DTC144ES

FINAL ASSEMBLY (TP-570)



9. FINAL ASSEMBLY (TP-570)

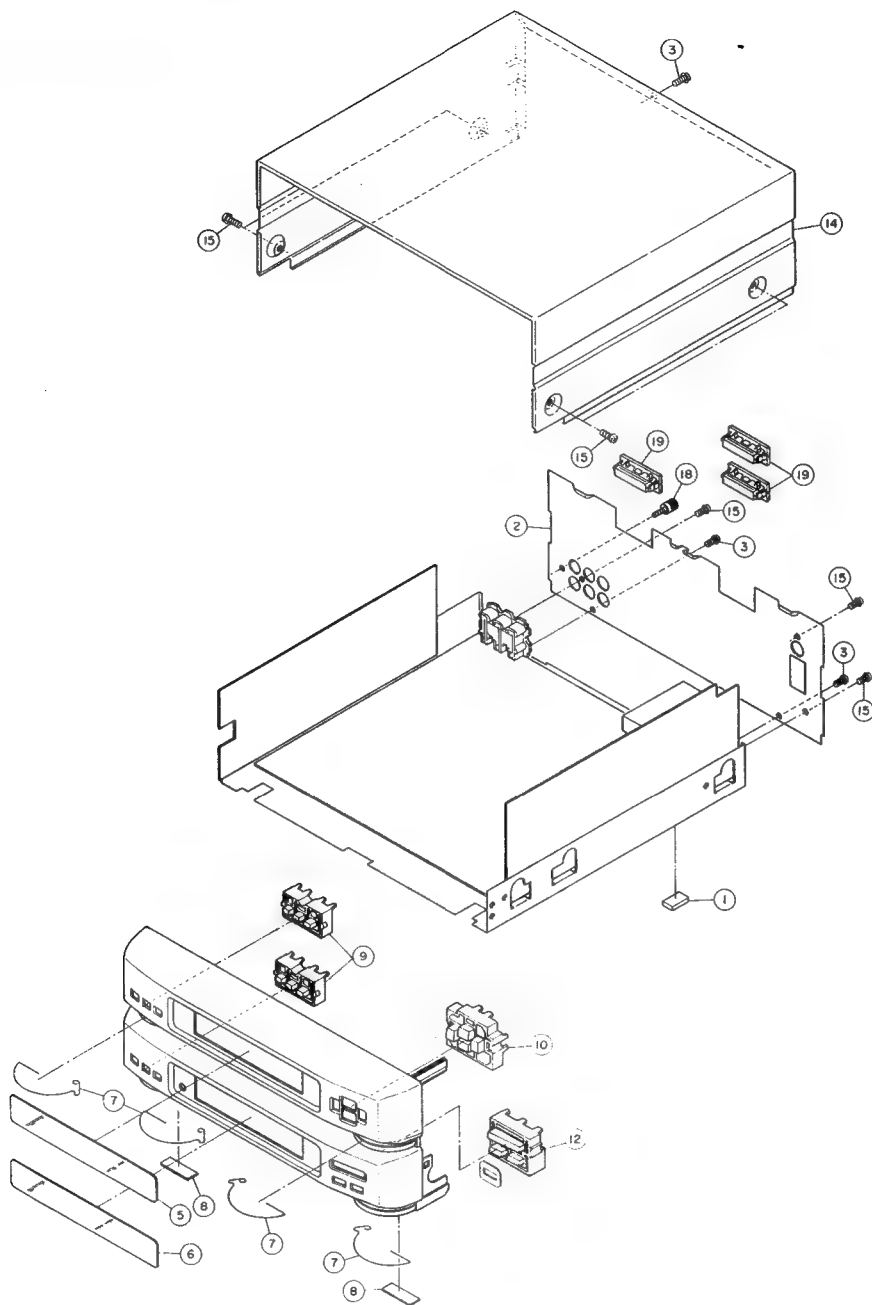
Ref. No.	Part No.	Description
1	SA-407840M	CUSHION FOOT REAR (SG)
2A	SP-414443M	PANEL REAR TP-570 (U) (SG)
2B	SP-414449M	PANEL REAR TP-570 (E) (SG)
2C	SP-414444M	PANEL REAR TP-570 (V) (SG)
3	ZS-394412J	BT BID30X08STL BZN PROJECTION
4	SP-414241M	PANEL FRONT TP-570 (SG)
5	SE-414247M	WINDOW-A (SG)
6	SE-414248M	WINDOW-B (SG)
7	SZ-414249M	RING FOOT (SG)
8	SA-394136M	CUSHION FOOT (SG)
9	SB-414242M	BUTTON TIMER (SG)
10	SB-414244M	BUTTON C/F (SG)
12	SB-414243M	BUTTON SELECTER (SG)

Ref. No.	Part No.	Description
14	SP-407906M2	COVER UPPER (SG)
15	ZS-394414J	BT BID30X08STL BZN
16	SE-407905M	LENS-SB (SG)
17	SB-414245M	KNOB TONE (SG)
18	EJ-393745J	TERMINAL W/SCREW LJB-0132
19	SZ-407909M	WIRE HOLDER (SG)
20	SZ-407908M	REFLECTOR-SB (SG)

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

FINAL ASSEMBLY (TP-670)



10. FINAL ASSEMBLY (TP-670)

Ref. No.	Part No.	Description
1	SA-407840M	CUSHION FOOT REAR (SG)
2A	SP-414445M	PANEL REAR TP-670 (U) (SG)
2B	SP-414446M	PANEL REAR TP-670 (E) (SG)
2C	SP-414447M	PANEL REAR TP-670 (V) (SG)
3	ZS-394412J	BT BID30X08STL BZN PROJECTION
4	SP-414250M	PANEL FRONT TP-670 (SG)
5	SE-414247M	WINDOW-A (SG)
6	SE-414272M	WINDOW-TP (SG)
7	SZ-414249M	RING FOOT (SG)
8	SA-394136M	CUSHION FOOT (SG)
9	SB-414242M	BUTTON TIMER (SG)
10	SB-414244M	BUTTON C/F (SG)
12	SB-414251J	BUTTON SELECTOR
14	SP-407906M2	COVER UPPER (SG)
15	ZS-394414J	BT BID30X08STL BZN
18	EJ-393745J	TERMINAL W/SCREW UB-0132
19	SZ-407909M	WIRE HOLDER (SG)

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

11. ACCESSORY

Ref. No.	Part No.	Description
1	EE-394420M1	ANT LOOP LA-75
2	EE-396107M	ANT WIRE FM A3063
3	EJ-394417J	SOCKET COAX HXC 0526-01-010

INDEX

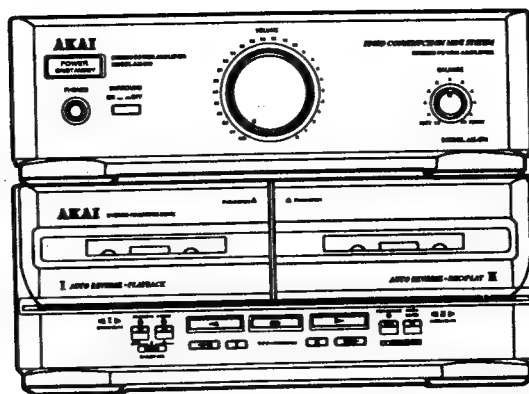
Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
BAA6007T030A	2-1A	ED511907	4-D751	EJ408668J	4-J11B	ET354371	4-TR801
BAA6007T030B	2-1B	ED511907	4-D752	EJ408669J	4-J11A	ET354371	4-TR802
BAA6007T030D	2-1D	ED511907	4-D753	EM408409J	5-IN1	ET354371	4-TR803
BAA6007T030E	2-1E	ED511907	4-D754	EM408409J	6-IN101	ET354371	4-TR804
BAA6007T035A	2-1C	ED511907	4-D757	EM408410J	6-IN102	ET354371	4-TR805
BAA6007T035B	2-1F	ED511907	4-D758	EO352089	3-T204	ET354371	4-TR807
BAA6007T040A	2-2	ED511907	4-D759	EO353588	3-L301	ET354371	4-TR816
BAA6008T050C	2-3A	ED511907	4-D761	EO353588	3-L302	ET354414	6-TR102
BAA6008T050D	2-3B	ED511907	4-D762	EO357539	3-L101	ET354414	6-TR108
EC337603	3-VC201	ED511907	4-D765	EO363279	3-T203	ET354414	7-TR204
EC346868	4-C764	ED511907	4-D766	EO408687J	3-T205	ET354414	7-TR209
EC346868	4-C765	ED511907	4-D767	EO408689M	3-T101	ET354414	8-TR13
EC346868	4-C766	ED511907	4-D811	EO408808M	3-T201	ET354415	8-TR5
EC346868	4-C767	ED511907	4-D812	EO408809M	3-T202	ET354415	8-TR6
EC356284	3-VC202	ED511907	4-D814	EQ403529J1	8-RL1	ET354415	8-TR9
EC410588J	4-C801	ED511907	7-D201	ER318248	7-FR202	ET354415	8-TR10
ED307572	3-D101	ED511907	7-D202	ER318647	3-R425	ET356336	4-TR817
ED307572	3-D203	ED511907	7-D203	ER324184	3-R107	ET356336	6-TR103
ED307572	3-D204	ED511907	7-D204	ER326169	4-R764	ET356336	7-TR203
ED307572	3-D402	ED624903	6-D101	ER331619	7-FR201	ET356437	3-TR101
ED307572	3-D403	ED624903	6-D102	ER333387	3-R108	ET361736	6-TR106
ED307572	3-D404	ED624903	6-D103	ER386215J	4-R751	ET361736	6-TR107
ED307572	4-D801	ED624903	6-D104	ER386215J	4-R752	ET366365	4-TR754
ED307572	4-D802	EE394420M1	11-1	ER386215J	4-R759	ET366365	4-TR756
ED307572	4-D803	EE396107M	11-2	ER408692J	4-R765	ET366581	4-TR758
ED307572	4-D804	EE408686J	3-FE101	ES362883	4-TS801	ET366581	7-TR205
ED307572	4-D805	EH338338	3-FL102B	ES408641J	5-TS1	ET366581	8-TR1
ED307572	4-D807	EH338338	3-FL103B	ES408641J	5-TS2	ET369248	4-TR810
ED307572	4-D808	EH364919	4-IB801	ES408641J	5-TS3	ET373025	4-TR752
ED307572	4-D809	EH394759J	3-FL102A	ES408641J	5-TS4	ET373392	4-TR809
ED307572	4-D813	EH394759J	3-FL103A	ES408641J	5-TS5	ET394735J	3-TR202
ED307572	4-D815	EH405199J	3-FL104	ES408641J	5-TS6	ET394735J	4-TR501
ED307572	4-D822	EH408650J	7-IB201	ES408641J	5-TS7	ET394735J	4-TR502
ED307572	5-D1	EH408650J	7-IB202	ES408641J	5-TS8	ET394735J	4-TR601
ED307572	5-D2	EH408815J	3-FL301	ES408641J	5-TS9	ET394735J	4-TR602
ED307572	5-D3	EH408815J	3-FL302	ES408641J	5-TS10	ET394735J	7-TR201
ED307572	5-D4	EH410605J	3-FL105	ES408641J	6-TS101	ET394735J	7-TR202
ED307572	5-D5	EH410605J	4-FL106	ES408641J	6-TS102	ET396072J	3-TR408
ED307572	5-D6	EI200573	4-IC502	ES408641J	6-TS103	ET397160J	3-TR102
ED307572	5-D10	EI200573	4-IC602	ES408641J	6-TS104	ET397160J	3-TR402
ED307572	6-D105	EI213390	3-IC301	ES408641J	6-TS105	ET397160J	4-TR512
ED307572	6-D106	EI302233	4-IC501	ES408641J	6-TS106	ET397160J	4-TR612
ED307572	6-D107	EI302233	4-IC601	ES408641J	6-TS107	ET397160J	4-TR757
ED307572	6-D108	EI332259	4-IC704	ES408641J	6-TS108	ET397160J	4-TR759
ED307572	6-D110	EI332259	7-IC206	ES408641J	6-TS109	ET397160J	8-TR2
ED307572	6-D111	EI354951	3-IC401	ES408641J	6-TS110	ET397160J	8-TR3
ED307572	8-D2	EI368825M	4-X802	ES408641J	6-TS111	ET397160J	8-TR4
ED307572	8-D3	EI382660J	4-IC701	ES408641J	6-TS112	ET397160J	8-TR7
ED329058	4-D768	EI387938J	4-IC802	ES408641J	6-TS113	ET397160J	8-TR8
ED337990	4-D760	EI400756J	4-IC702	ET337759	3-TR401	ET397160J	8-TR11
ED346531	4-D764	EI400756J	4-IC703	ET349458	3-TR201	ET397160J	8-TR12
ED346534	4-D701	EI400756J	5-IC1	ET353897	3-TR203	ET400965J	7-TR206
ED346534	4-D702	EI400756J	5-IC2	ET353897	4-TR806	ET401091J	4-TR818
ED346559	4-D755	EI400756J	7-IC204	ET353897	4-TR811	ET401091J	4-TR819
ED346560	4-D756	EI405327J	4-X801	ET353899	3-TR406	ET411995J	5-PH1
ED351418	4-D763	EI408645J	6-IC101	ET353899	3-TR407	ET411995J	6-PH101
ED367576	3-D401	EI408646J	7-IC205	ET353899	4-TR753	EV356576	3-VR102
ED370786	3-D405	EI408647J	7-IC201	ET353899	4-TR755	EV356576	3-VR103
ED372893	3-D201	EI408648J	7-IC202	ET353899	4-TR760	EV358829	3-VR101
ED372893	3-D202	EI408648J	7-IC203	ET353899	4-TR761	EV408642J	5-VR1
ED389688J	3-D406	EI408649J	6-X101	ET353899	4-TR815	EV408643J	5-VR2
ED394723J	6-D109	EI408672J	4-IC804	ET353899	5-TR1	EW408676J	4-W1
ED397103J	7-D207	EI408673J	3-IC101	ET353899	7-TR207	EW408679J	4-W2
ED397289J	4-D821	EI408674J	3-X101	ET353899	7-TR208	EW408681J1	4-W3
ED402212J	8-D1	EI408675J4	4-IC801	ET354094	3-TR403	EW408816J2	5-W4
ED403757J	5-D7	EI408814M	3-X401	ET354094	3-TR404	EW408816J2	6-W101
ED403757J	5-D8	EJ359031	3-TM1	ET354094	3-TR405	EW408817J2	5-W2
ED403757J	5-D9	EJ393745J	9-18	ET354364	6-TR105	EW408817J2	5-W3
ED408807J	7-D205	EJ393745J	10-18	ET354370	4-TR808	EW408817J2	6-W102
ED408807J	7-D206	EJ394417J	11-3	ET354370	4-TR812	EW408817J2	6-W103

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
SA394136M	9-8						
SA394136M	10-8						
SA407840M	9-7						
SA407840M	10-1						
SB414242M	9-9						
SB414242M	10-9						
SB414243M	9-12						
SB414244M	9-10						
SB414244M	10-10						
SB414245M	9-17						
SB414251J	10-12						
SE407905M	9-16						
SE414247M	9-5						
SE414247M	10-5						
SE414248M	9-6						
SE414272M	10-6						
SP407906M2	9-14						
SP407906M2	10-14						
SP414241M	9-4						
SP414250M	10-4						
SP414443M	9-2A						
SP414444M	9-2C						
SP414445M	10-2A						
SP414446M	10-2B						
SP414447M	10-2C						
SP414449M	9-2B						
SZ407908M	9-20						
SZ407909M	9-19						
SZ407909M	10-19						
SZ414249M	9-7						
SZ414249M	10-7						
ZS394412J	9-3						
ZS394412J	10-3						
ZS394414J	9-15						
ZS394414J	10-15						

ABBREVIATIONS (TUNER)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AFC	Auto Frequency Control	MEMO	MEMOry
AGC	Auto Gain Control	MI-COM	MicrO-COMputer
ALC	Auto Level Control	MIN	MINimum
AM	Amplitude Modulation	MIX	MIXing
AMP	AMPlifier	MPX	Multi pleX
ANT	ANTenna	MW	Medium Wave (frequency)
BATT	BATTery	NC	No Connection
BLK	BLOCK	NFB	Negative Feed Back
BUFF	BUFFer	OSC	OSCillator
COMP	COMPalator	PCB	Printed Circuit Board
DET	DETECT (DETctor)	PLL	Phase Locked Loop
FLD	FLuorescent Display	Q.D	Quadrature Detector
FM	Frequency Modulation	Rch	Right channel
FREQ	FREQuency	REF	REFerence
GND	GrouND	REG	REGulator
H	Hight	RF	Radio Frequency
HPF	Hight Pass Filter	SEG	SEGment
IF	Intermediate Frequency	SELE	SELEctor
IHF	Institut of High Fidelity	SENS	SENSitivity
IND	INDicator	SIG	SIGnal
I/O	In/Out	S/N	Signal to Noise Ratio
JW	Jumper Wire	SSG	Standard Signal Generator
L	Low	STD	STanDard
LCD	Liquid Crystal Display	SW	SWitch: Short Wave (frequency)
Lch	Left channel	THD	Total Harmonic Distortion
LED	Light Emiting Diode	TP	Test Point
LPF	Low Pass Filter	VCO	Voltage Controlled Cscillator
LW	Long Wave (Frequency)	VR	Variable Resistor
		X'TAL	Crystal

MEMO



MODEL AX-670

STEREO DECK AMPLIFIER

MODEL AX-570/670

SPECIFICATIONS

[AMPLIFIER section]

Power output

AX-570	50W+50W (6 ohms, 1kHz, 10% THD, EIAJ), 35W+35W (6 ohms, 1kHz, 1% THD, DIN) 30W+30W (6 ohms, 60Hz to 20kHz, 0.5% THD, FTC)
AX-670	60W+60W (6 ohms, 1kHz, 10% THD, EIAJ), 50W+50W (6 ohms, 1kHz, 1% THD, DIN) 40W+40W (6 ohms, 60 Hz to 20 kHz, 0.5% THD, FTC)

Music power output..... TOTAL 350W (AX-570), 430W (AX-670)

Peak music power output TOTAL 600W (AX-570), 700W (AX-670)

Frequency response 10Hz to 100kHz (10Hz: -4dB, 100kHz: -3dB)

Required speaker impedance 6 to 16 ohms (Front speaker), 8 to 16 ohms (Surround speaker)

Input Sensitivity

PHONO 3mV/47k ohms

VCR..... 230mV/22k ohms

Output level..... VCR 150mV/1k ohms

S/N ratio

PHONO 61dB

ETC 75dB

Residual noise..... 0.3mV

Channel separation..... 65dB

[Deck section]

Track system..... 4 track, 2 channel system

Frequency response 35 to 14,000Hz \pm 3dB (Normal tape)

35 to 15,000Hz \pm 3dB (CrO₂ tape)

Wow & Flutter 0.09% (WRMS), 0.15% (DIN)

S/N ratio 76dB (Dolby C ON, 1 kHz to 10 kHz)

66dB (Dolby B ON, 5 kHz)

56dB (Dolby OFF, CrO₂ tape)

Total harmonic distortion less than 0.3% (Normal tape, at 315Hz)

Channel separation..... 35dB (Normal tape)

[General]

Power requirements AC220V-230V, 50Hz for Europe except UK, AC240V, 50Hz for UK & Australia
AC110V/120V/220V/240V, 50/60Hz convertible for other countries

Demensions 270(W) x 200(H) x 313(D)mm

Weight 7.0kg


Power consumption..... 110W (AX-570), 140W (AX-670)

Standard accessories

Remote control unit..... x 1

Batteries x 2

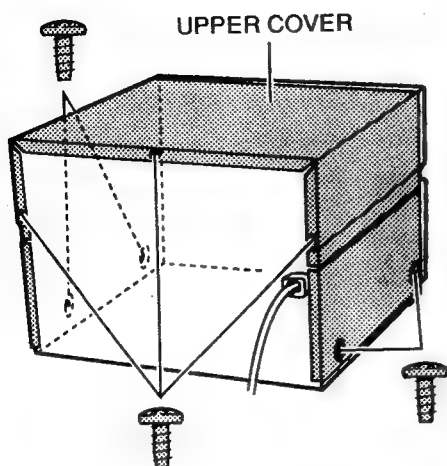
Operator's manual x 1

*For improvement purposes, specifications and design are subject to change without notice.
*Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
*"DOLBY" and  symbol are trademarks of Dolby Licensing Corporation.

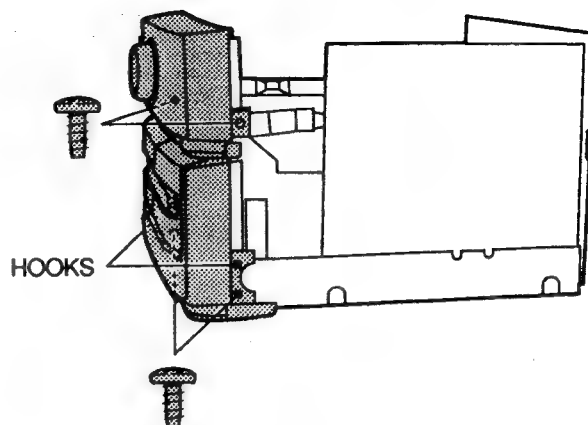
I. DISASSEMBLY

In case of trouble etc., necessitating dismantling, please dismantle in the order shown in the illustrations.
Reassemble in the reverse order.

1. Removal of the UPPER COVER

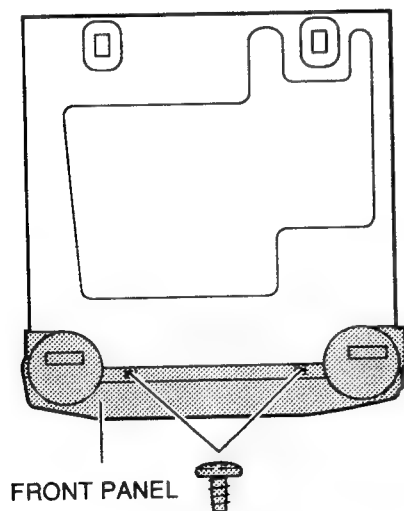


3.

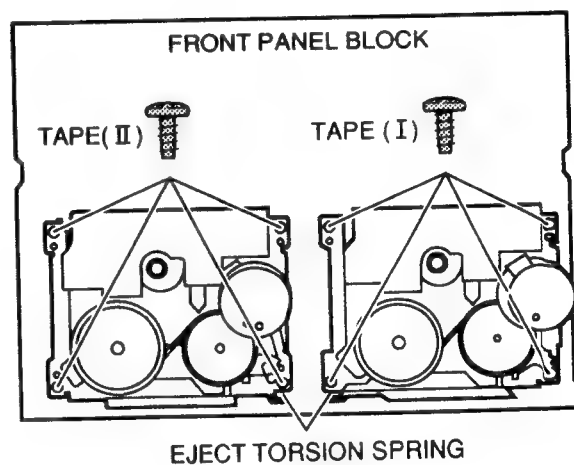


- 1) Disconnect the wires from J4 and J8 connectors on the POWER SUPPLY PCB, P101,P102,J651,J652,J801 and J802 on the DECK PCB, J2 on the MAIN AMP PCB.

2. Removal of the FRONT PANEL BLOCK



4. Removal of the CASSETTE MECHA. BLOCK



- 1) Unhook the EJECT TORSION SPRING.
- 2) Remove the four MECHA. BLOCK RETAINING SCREWS.

II. PRINCIPAL PARTS LOCATION

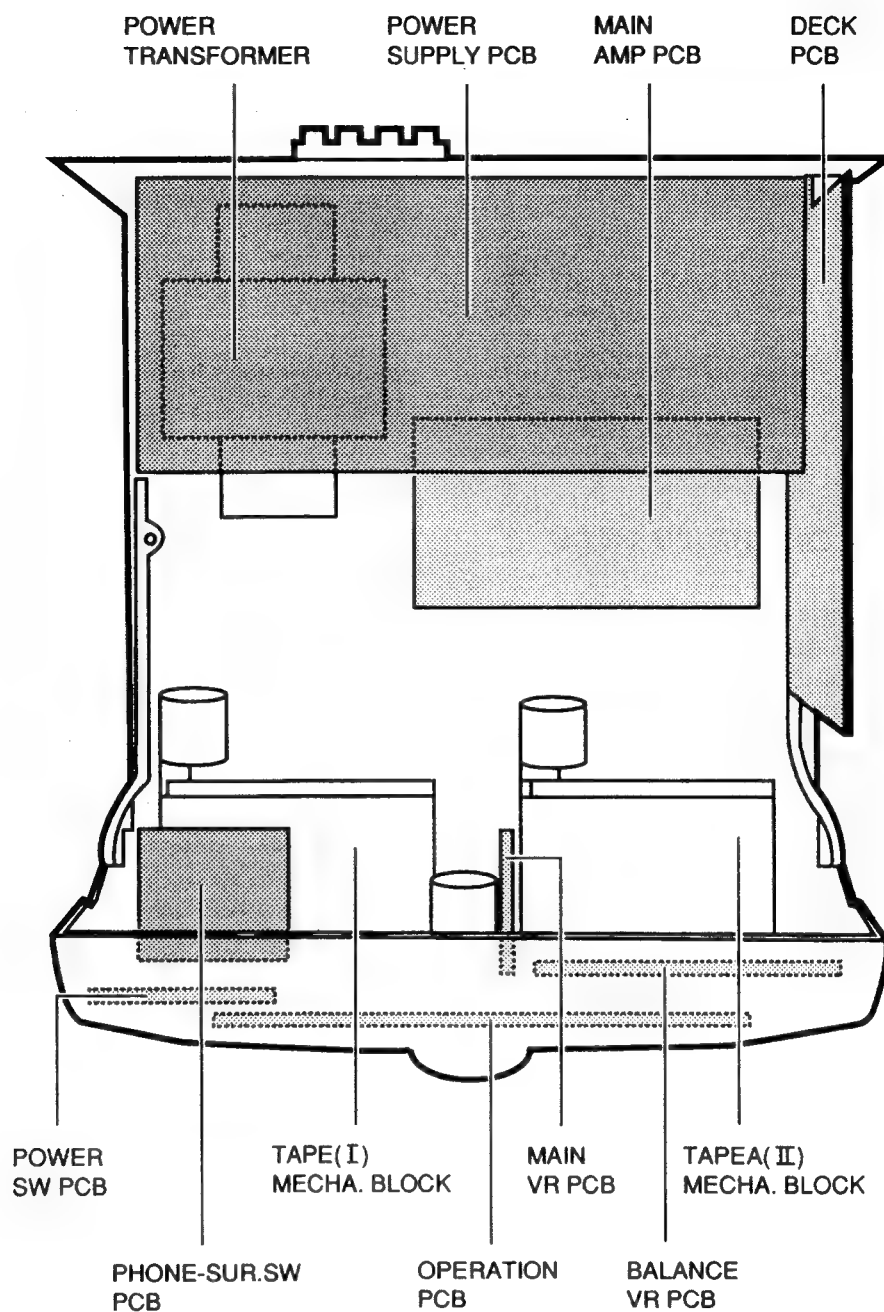


Fig. 2-1 Top view

III. REPLACEMENT OF PRINCIPAL MECHANICAL PARTS

3-1.REPLACEMENT OF THE PINCH ROLLER BLOCK

- 1) Pull the PINCH ROLLER BLOCK upward (↑) while releasing the PINCH ROLLER RETAINING HOOK
- 2) Reassemble in the reverse order.

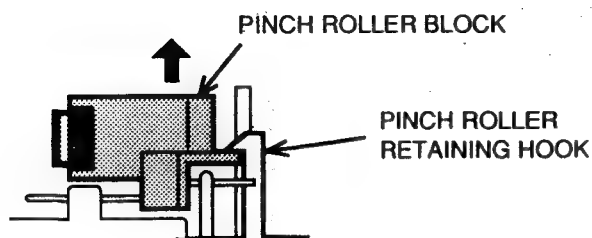


Fig. 3-1

3-2.REPLACEMENT OF THE PB HEAD (TAPE I)

- 1) Remove the two HEAD RETAINING (A) SCREWS.
- 2) Pull out the HEAD and disconnect all the lead wires with a soldering iron, then replace the PB HEAD.
- 3) Reassemble, in the reverse order. After replacement, head azimuth and PB level (AX-670 only) adjustment must be performed.



Fig. 3-2

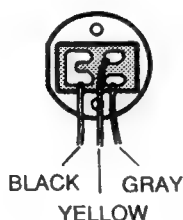


Fig. 3-3

3-3.REPLACEMENT OF THE REC/PB HEAD (TAPE II)

- 1) Remove the two HEAD RETAINING (A) SCREWS.
- 2) Pull out the HEAD and disconnect all lead wires with a soldering iron, then replace the REC/PB HEAD.
- 3) Reassemble in the reverse order. After replacement, head azimuth, PB level (AX-670 only), BIAS current (AX-670 only) and REC level (AX-670 only) adjustments must be performed.



Fig. 3-4

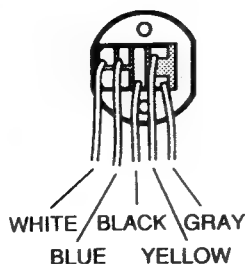


Fig. 3-5

3-4.REPLACEMENT OF THE CAPSTAN MOTOR

- 1) Disconnect the lead wire of the CAPSTAN MOTOR with a soldering iron.
- 2) Remove the CAPSTAN MOTOR RETAINING (B) SCREWS, then replace the CAPSTAN MOTOR.
- 3) Reassemble in the reverse order and set the DRIVE BELT. After replacement, tape speed adjustment must be performed.

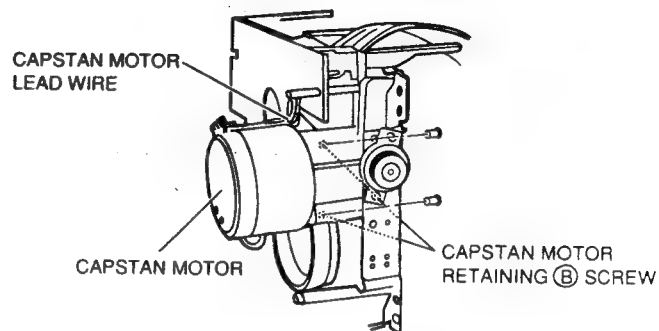


Fig. 3-6

3-5.REPLACEMENT OF THE DRIVE BELT

- 1) Remove the CAPSTAN MOTOR RETAINING (B) SCREWS. (refer illustration Fig. 3-6)
- 2) Unsolder the lead wires of the SOLENOID with a soldering iron.
- 3) Remove the two MOTOR PCB RETAINING (C) SCREWS and separate the MOTOR PCB from the MECHA BLK. Replace the DRIVE BELT.
- 4) Reassemble in the reverse order. After replacement, confirm the tape speed and if the result is not satisfactory, adjust the tape speed.

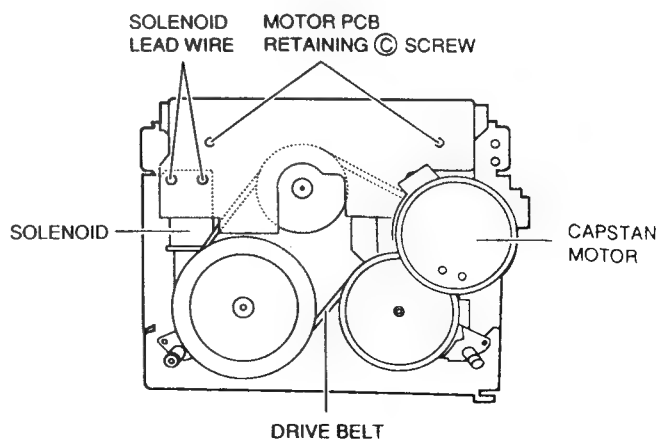


Fig. 3-7

IV. MECHANICAL ADJUSTMENT

4-1. ADJUSTMENT OF THE PB HEAD AZIMUTH ALIGNMENT (TAPE I)

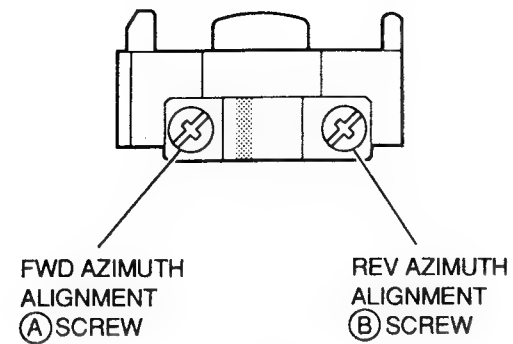


Fig. 4-1

- 1) Connect an AC milli-voltmeter to the TEST POINT 1L and 1R (refer to the illustration on page 26) and connect an oscilloscope's input CH-1 and CH-2 to the output of the AC milli-voltmeters.
- 2) Play back the 10 kHz (-15 dB), HEAD AZIMUTH ALIGNMENT TEST TAPE (TF-106CH) then adjust the PB HEAD AZIMUTH ALIGNMENT (A) (FWD PLAY) and (B) (REV PLAY) SCREW respectively so that the reading on the AC milli-voltmeters are at maximum and waveforms on the oscilloscope are in the same phase, in both FWD and REV directions.

4-2. ADJUSTMENT OF THE REC/PB HEAD AZIMUTH ALIGNMENT (TAPE II)

- 1) Connect an AC milli-voltmeter to the TEST POINT 1L and 1R (refer to the illustration on page 26) and connect the oscilloscope's input CH-1 and CH-2 to the output of the AC milli-voltmeters.
- 2) Play back the 10 kHz (-15dB), HEAD AZIMUTH ALIGNMENT TEST TAPE (TF-106CH) then adjust the REC/PB HEAD AZIMUTH ALIGNMENT (A) (FWD PLAY) and (B) (REV PLAY) SCREW respectively so that the reading on the AC milli-voltmeters are at maximum and waveforms on the oscilloscope are in the same phase in both FWD and REV directions.

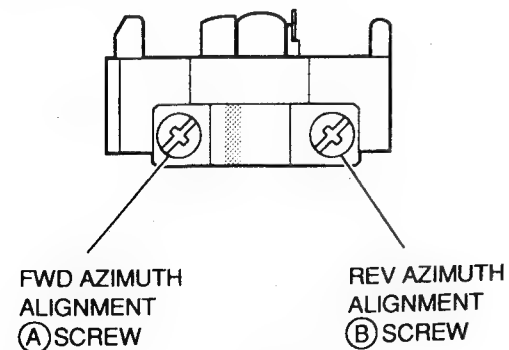


Fig. 4-2

AX-570, 670

V. ELECTRICAL ADJUSTMENT

NOTE:

- 1) Tape speed (x2) adjustment should be performed in the test mode. To engage the test mode, connect the AC power cord to the AC outlet while pressing the ►► and ◄◄ buttons together. When the test mode is engaged, X1 dub lamp is lit. To disengage the test mode, unplug the AC power cord from the AC outlet.
- 2) When performing the tape speed adjustment, observe the following notes.
 - Adjustment should be started more than 30 seconds after the power is ON.
 - Adjustment should be made on x2 speed mode first then adjust normal speed mode.
 - Adjustment should be made in the forward direction.
- 3) An AC milli-volt meter input should be terminated with 22k ohms register in parallel.
- 4) Set the DOLBY NR switch to "OFF" position during adjustment.
- 5) Use the maxell UDI C-60 tape for the adjustments "step 8 & 9".
- 6) Before adjustment, clean and de-magnetize the heads.

STEP ADJUSTMENT

1. TEST TAPE/INPUT SIGNAL
2. MODE
3. CHECK POINT, ADJUSTMENT PART
4. REMARKS (●) and RESULT (*)

Adjustment Part

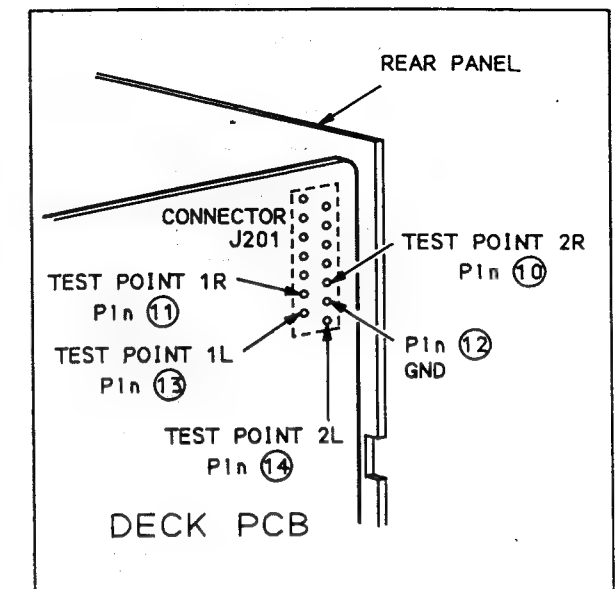
Test Point

6 TAPE II PB LEVEL (AX-670 ONLY)

1. 315Hz test tape (TF-101CL)
2. PLAY
3. TEST POINT 1L & 1R, VR152 (L-ch) / VR102 (R-ch)
4. • Connect an AC milli-voltmeter to the TEST POINT 1L & 1R.
* -6.0dBs

5 TAPE I PB LEVEL (AX-670 ONLY)

1. 315Hz test tape (TF-101CL)
2. PLAY
3. TEST POINT 1L & 1R, VR151 (L-ch) / VR101 (Rch)
4. • Connect an AC milli-voltmeter to the TEST POINT 1L & 1R.
* -6.0dBs



1 TAPE I (X2) TAPE SPEED

1. 3,150Hz test tape (TF-110CT)
2. PLAY (test mode)
3. TEST POINT 1L, VR651
4. • Connect a frequency counter to the TEST POINT 1L.
• Press the "x2 DUBBING START" button during playback.
* 6,300 ± 10 Hz

3 TAPE I NORMAL TAPE SPEED

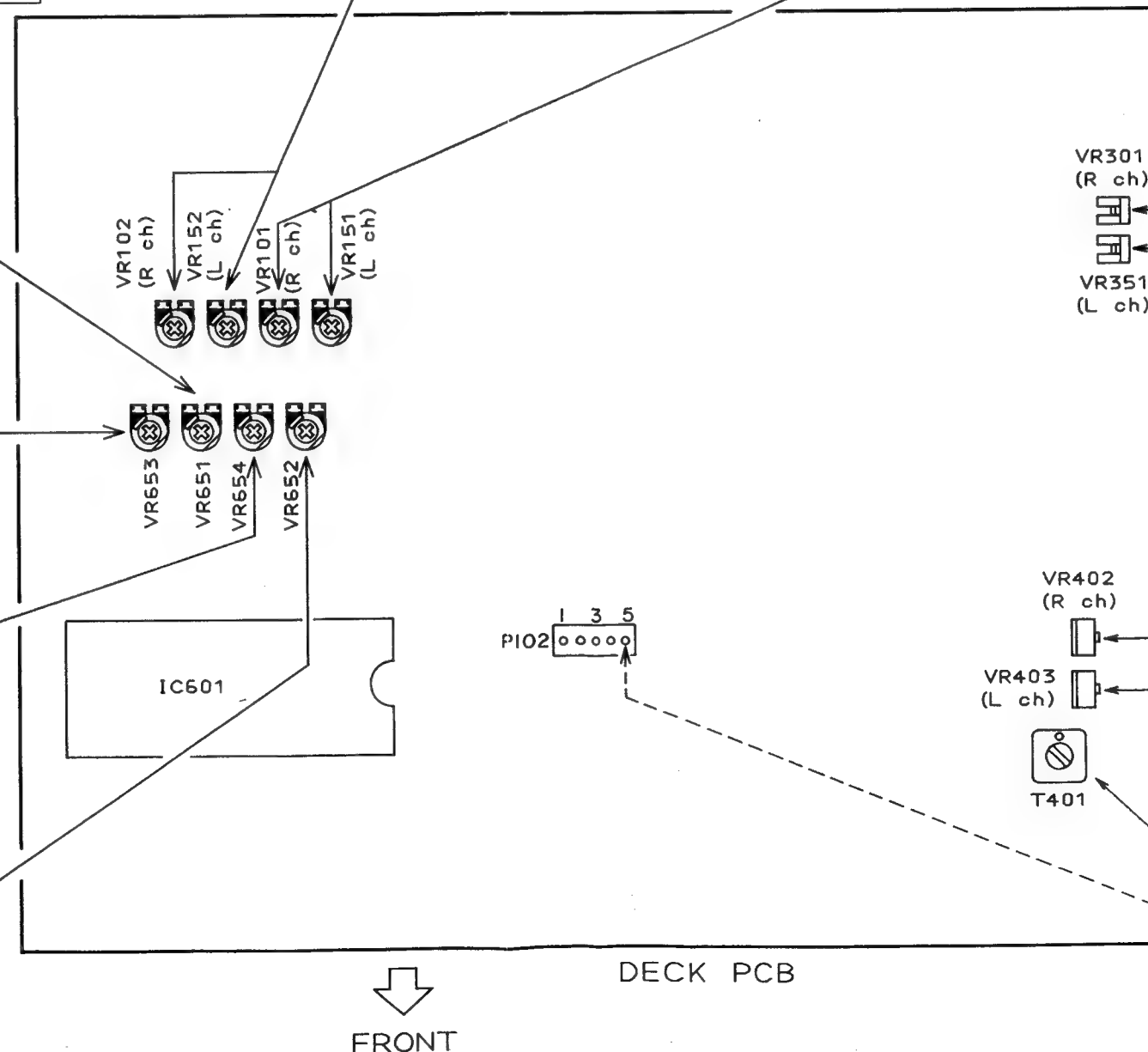
1. 3,150Hz test tape (TF-110CT)
2. PLAY
3. TEST POINT 1L, VR653
4. • Connect a frequency counter to the TEST POINT 1L.
* 3,150 ± 5Hz

2 TAPE II (X2) TAPE SPEED

1. 3,150Hz test tape (TF-110CT)
2. PLAY (test mode)
3. TEST POINT 1L, VR654
4. • Connect a frequency counter to the TEST POINT 1L.
• Press the "x2 DUBBING START" button during playback.
* 6,280 ± 10Hz

4 TAPE II NORMAL TAPE SPEED

1. 3,150Hz test tape (TF-110CT)
2. PLAY
3. TEST POINT 1L, VR652
4. • Connect a frequency counter to the TEST POINT 1L.
* 3,140 ± 5Hz



9 RECORDING LEVEL (AX-670 ONLY)

1. 1 kHz, -6.0 dBs (LINE OUT), NORMAL recording tape.
2. REC → PLAY
3. TEST POINT 1L & 1R, VR351 (L-ch) / VR301 (R-ch)
4. • Connect an AC Milli-voltmeter to the TEST POINT 1L & 1R.
• Connect an audio signal generator to the TEST POINT 2L & 2R and set the generator level so that the TEST POINT 1L & 1R levels are -6.0dBs.
* Playback levels after recording are -6.0dBs

8 NORMAL POSITION BIAS (AX-670 ONLY)

1. 1 kHz and 10 kHz, -26.0 dBs (LINE OUT), NORMAL recording tape.
2. REC → PLAY
3. TEST POINT 1L & 1R, VR403 (L-ch) / VR402 (R-ch)
4. • Connect an AC Milli-voltmeter to the TEST POINT 1L & 1R.
• Connect an audio signal generator to the TEST POINT 2L & 2R and set the generator level so that the TEST POINT 1L & 1R levels are -26.0dBs.
* Playback level difference between 1kHz and 10kHz after recording is within ± 0.3dB.

7 BIAS OSC FREQUENCY

1. CrO2 type blank tape
2. REC
3. TAPE II, T401 (P102)
4. • Connect a frequency counter between P102 ⑤ pin and GND. (10 : 1 probe should be used to avoid affecting to the measurement.)
* 100.0 ± 0.2kHz

V. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

Ref. No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

Ref. No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)
 [B] : BEAB (England) [U] : U/T (Universal Area)
 [C] : CSA (Canada)
 [E] : CEE (Europe) [V] : VDE (Germany)
 [J] : JPN (Japan) [Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

△ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

△ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

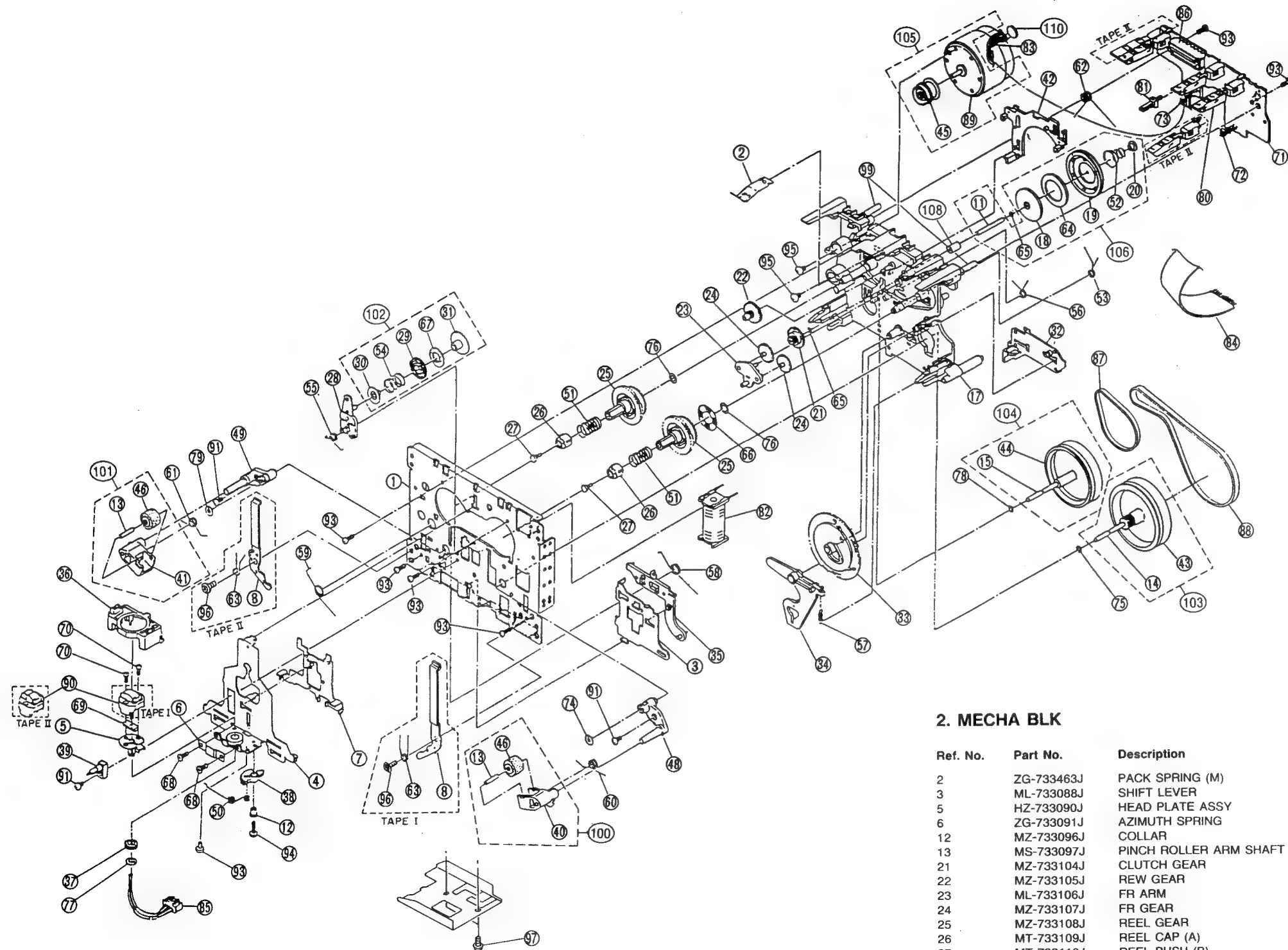
1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	AX-411759M	REMOCON RC-S670
2	BB-414756M1	MECHA GAK9311 [TAPE 1]
3	BB-414757M1	MECHA GAK9611 [TAPE 2]
4	BM-729993J	MOTOR EG-530YD-2B
5	*BT-408729M	TRANS POW C1029 BS [570]
6	*BT-408728M	TRANS POW C1029 EV [E] [570]
7	*BT-408727M	TRANS POW C1029 U [570]
8	*BT-408732M	TRANS POW C1030 BS [670]
9	*BT-408731M	TRANS POW C1030 EV [E] [670]
10	*BT-408730M	TRANS POW C1030 U [670]
11	*BT-416526M	TRANS POW C1032 EV [V] [570]
12	*BT-416525M	TRANS POW C1033 EV [V] [670]
13	ED-394509J	D LED GL3HY43 ORANGE
14	ED-389638J	D LED GL3HY47 YELLOW
15	ED-394724J	D LED GL3PR43 RED
16	ED-307572	D SILICON H 1SS131
17	*ED-394708J	D SILICON RBA402 200/4.0A
18	*ED-511907	D SILICON 1N4002 100/1.0A
19	*ED-408743J	D ZENER H HZS11B3L
20	ED-388320J	D ZENER H HZS12B3L
21	*ED-391003J	D ZENER H HZS4C3
22	ED-400171J	D ZENER H HZS6C2L
23	*EF-359007	FUSE BET T 250V 1.25A [U,B,S] [570]
24	*EF-364518	FUSE BET T 250V 2.50A [570]
25	*EF-359225	FUSE BET T 250V 3.15A [670]
26	*EF-359086	FUSE BET T 250V 4.00A [670]
27	*EF-358974	FUSE BET T 250V 630MA
28	*EF-601964	FUSE SEMKO T 250V 1.60A [U,B,S] [670]
29	EH-408820J	COMP R RGL10T 472J
30	EI-389322J	IC CXA1101P [570]
31	EI-394573J	IC CXA1331S [670]
32	EI-387938J	IC HD74LS05P
33	EI-394574J	IC LA2000
34	EI-393323J	IC M5218AL-771
35	*EI-394709J	IC STK4142-2 [570]
36	*EI-358554	IC STK4152II [670]
37	EI-310036	IC TC4066BP
38	EI-408700J2	IC UPD75108CW-W25 MXA1DK3
39	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ
40	EO-403613J	COIL FIX 2 202AK-018A 2R2K
41	EO-356809	COIL TUN 1 100Z-121 100.00KHZ
42	EP-733165J	SOLENOID ASSY
43	*ER-332225	R FUSE H S10 ERD2FC 1/4W 56R0G
44	*ER-331188	R FUSE H S10 ERD2FC 1/4W 8R2J
45	*ER-401042J	R FUSE V T05 ERD2FCV 1/4W33R0G
46	ER-397193J	R OMF V T05 FS 1W 100J
47	ER-397194J	R OMF V T05 FS 1W 331J
48	ES-733164J	LEAF SWITCH LSA-1114G
49	ES-408695J	SW PUSH SPUL12 2-02-02N [SURROUND SW]
50	*ES-349070	SW SELECTOR YKS11-0002 02-4 [SW901]
51	ES-408706J	SW SLIDE SSSS91 L-2 1-01-02N [570]

Ref. No.	Part No.	Description
52	ES-408708J	SW SLIDE SSSS91 L-2 1-01-03 [670]
53	ES-408703J	SW TACT EVQ 233 05R T05 [POWER SW]
54	ES-733468J	SWITCH LEAF LSA-1141E1AU
55	ET-733156J	DETECTOR NJL5165K
56	ET-369248	TR DTA114YS
57	ET-375983	TR DTA124TS
58	ET-373382	TR DTA143ZS
59	ET-373985	TR DTA144TS
60	ET-354365	TR DTC114YS
61	ET-373485	TR DTC123JS
62	ET-375986	TR DTC124TS
63	ET-354364	TR DTC143TS
64	ET-373391	TR DTC143ZS
65	ET-354414	TR DTC144ES
66	ET-370310	TR DTC144TS
67	ET-408777J	TR FET 2SJ40 D,E T05
68	ET-408709J	TR FET 2SK373 Y,GR T05
69	ET-371688	TR FET 2SK381 D F05
70	ET-353899	TR 2SA1317 S,T,U
71	ET-408772J	TR 2SA1318 S,T,U T05
72	*ET-352726	TR 2SA1392 T,U
73	ET-397160J	TR 2SC3330 R,S,T,U,V
74	ET-361736	TR 2SC3576
75	ET-400741J	TR 2SC3708 T T05
76	*ET-366581	TR 2SD1762 E,F
77	*ET-373025	TR 2SD1944 J1,J2,K
78	ET-396072J	TR 2SD2159 V,W
79	EV-394561J	R S-FIX H V8K4-11 (1S) 0.10W102
80	EV-355380	R S-FIX H V8K4-11 (1S) 0.10W202
81	EV-404323J	R S-FIX H V8K4-11 (1S) 0.10W332 [670]
82	EV-341251	R S-FIX V TM8KH1-1S 0.50W104 [670]
83	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332 [670]
84	EV-408707J	VR ROTARY RK11K1140 SP W104 [BALANCE VR]
85	EV-408811J	VR SPL EUW M06 022B15 B104X2 [MAIN VR]
86	EW-733473J	3P HEAD WIRE ASSY [GAK9311]
87	EW-733169J	5P HEAD WIRE ASSY [GAK9611]
88	HP-733172J	ROTATION HEAD MK10P-AB2N3 [GAK9311]
89	HR-733173J	ROTATION HEAD YK56R-AA4N3 [GAK9611]
90	HZ-733119J	TAPE GUIDE
91	MB-733469J	BELT DRIVE (B)
92	MB-733470J	BELT DRIVE (C)
93	MR-733129J	P ROLLER
94	MZ-733132J	HOUSING ASSY (L)
95	MZ-733131J	HOUSING ASSY (R)

MECHA BLK



2. MECHA BLK

Ref. No.	Part No.	Description
2	ZG-733463J	PACK SPRING (M)
3	ML-733088J	SHIFT LEVER
5	HZ-733090J	HEAD PLATE ASSY
6	ZG-733091J	AZIMUTH SPRING
12	MZ-733096J	COLLAR
13	MS-733097J	PINCH ROLLER ARM SHAFT
21	MZ-733104J	CLUTCH GEAR
22	MZ-733105J	REW GEAR
23	ML-733106J	FR ARM
24	MZ-733107J	FR GEAR
25	MZ-733108J	REEL GEAR
26	MT-733109J	REEL CAP (A)
27	MT-733110J	REEL BUSH (B)
28	ML-733111J	PLAY ARM
32	ML-733115J	SHIFT LEVER SELECT
33	MZ-733116J	PLAY CAM GEAR
34	ML-733117J	TRIGGER ARM
35	ML-733118J	SELECT ARM
36	HZ-733119J	TAPE GUIDE
37	MZ-733120J	ROTATION GEAR

Ref. No.	Part No.	Description
38	MZ-733121J	RETURN GEAR
39	MS-733122J	CASSETTE GUIDE
40	ML-733123J	P ROLLER ARM (R)
41	ML-733124J	P ROLLER ARM (L)
42	ML-733125J	BRAKE ARM
45	MR-733466J	PULLEY MOTOR (YD)
46	MR-733129J	P ROLLER
48	MZ-733131J	HOUSING ASSY (R)
49	MZ-733132J	HOUSING ASSY (L)
50	ZG-733133J	RETURN SPRING
51	ZG-733134J	REEL SPRING
53	ZG-733136J	CLUTCH ARM SPRING
55	ZG-733138J	PLAY ARM SPRING
56	ZG-733139J	SHIFT LEVER SELECT SPRING
57	ZG-733140J	TRIGGER ARM SPRING
58	ZG-733141J	SHIFT SPRING
59	ZG-733142J	HEAD CHASSIS SPRING
60	ZG-733143J	P ROLLER ARM (R) SPRING
61	ZG-733144J	P ROLLER ARM (L) SPRING
62	ZG-733145J	BRAKE ARM SPRING
63A	ZG-733146J	INTER LOCK LEVER (R) SPRING
63B	ZG-733147J	INTER LOCK LEVER (L) SPRING
65	ZW-733149J	POLYSLIDER WASHER 1.6X3X0.13T
66	SZ-733150J	REFLECT SEAL
68	ZS-733467J	SCREW AZIMUTH
70	ZG-733154J	HEAD SCREW (RVS)
72	ET-733156J	DETECTOR NJL5165K
73	ER-341091	R CB H F05 RDS 1/6W 152J
74	ZW-733157J	POLYSLIDER WASHER 1.8X6X0.5T
75	ZW-733158J	POLYSLIDER WASHER 2.3X4X0.25T
76	ZW-733159J	TEFRON WASHER 4.1X6.5X0.25T
77	ZW-733160J	POLYSLIDER WASHER 3.5X6.5X0.5T
78	ZW-733161J	POLYSLIDER WASHER 2.1X4X0.25T
79	ZW-733162J	POLYSLIDER WASHER 1.65X5X0.5T
80	ES-733468J	SWITCH LEAF LSA-1141E1AU
81	ES-733164J	LEAF SWITCH LSA-1114G
82	EP-733165J	SOLENOID ASSY
84	EW-733167J	15P FLAT RIBBON WIRE
85A	EW-733473J	3P HEAD WIRE ASSY
85B	EW-733169J	5P HEAD WIRE ASSY
86	EJ-733170J	CONNECTOR 52004-1510
87	MB-733469J	BELT DRIVE (B)
88	MB-733470J	BELT DRIVE (C)
89	BM-729993J	MOTOR EG-530YD-2B
90A	HP-733172J	ROTATION HEAD MK10P-AB2N3
90B	HR-733173J	ROTATION HEAD YK56R-AA4N3
91	ZS-460440	PAN20X04STL CMT
93	ZS-321320	BT PAN20X06STL CMT
94	ZS-733474J	SCREW TAP TITE 17X08
95	ZS-432843	PAN26X04STL CMT
96	ZS-733471J	SCREW WASHER HEAD 20X10
97	ZS-357727	ST PAN20X05STL CMT
99	MA-733472J	BASE MECHA ASSY
102	BZ-733179J	PLAY GEAR ASSY
103	BF-733191J	FLYWHEEL (R) ASSY
104	BF-733192J	FLYWHEEL (L) ASSY
106	BZ-733194J	CLUTCH ASSY
110	EC-322028	C CE V F05 SL 101J 50DC

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

3. P.C BOARD BLK

Ref. No.	Part No.	Description
1A	BA-C1029T050A	ML PC (#) MAIN-AXBLK AX-550 (U)/ML [U]
1B	BA-C1029T050B	ML PC (#) MAIN-AXBLK AX-550 (E)/ML [E]
1C	BA-C1029T050C	ML PC (#) MAIN-AXBLK AX-550 (V)/ML [V]
1D	BA-C1029T050D	ML PC (#) MAIN-AXBLK AX-550 (B)/ML [B,S]
1E	BA-C1029T050E	ML PC (#) MAIN-AXBLK AX-650 (U)/ML [U]
1F	BA-C1029T050F	ML PC (#) MAIN-AXBLK AX-650 (E)/ML [E]
1G	BA-C1029T050G	ML PC (#) MAIN-AXBLK AX-650 (V)/ML [V]
1H	BA-C1029T050H	ML PC (#) MAIN-AXBLK AX-650 (B)/ML [B,S]
2A	BA-C1029T060D	ML PC (#) DECK-AXBLK AX-570/ML
2B	BA-C1029T060E	ML PC (#) DECK-AXBLK AX-670/ML

PC (#) MAIN-AX BLK CONSISTS OF FOLLOWING P.C BOARDS.

- MAIN AMP P.C BOARD
- POWER SUPPLY P.C BOARD
- BALANCE VR P.C BOARD
- MAIN VR P.C BOARD
- PHONE/USR SW P.C BOARD
- POWER SW P.C BOARD
- LED P.C BOARD

PC (#) DECK-AX BLK CONSISTS OF FOLLOWING P.C BOARDS.

- DECK P.C BOARD
- OPERATION P.C BOARD

4. MAIN AMP P.C BOARD

Ref. No.	Part No.	Description
C83A	EC-383075J	C EC V CUT SME 332M 35.0DC [570]
C83B	EC-394535J	C EC V CUT SME 332M 45.0DC [670]
C84A	EC-383075J	C EC V CUT SME 332M 35.0DC [570]
C84B	EC-394535J	C EC V CUT SME 332M 45.0DC [670]
D1	*ED-394708J	D SILICON RBA402 200/4.0A
D2	*ED-511907	D SILICON 1N4002 100/1.0A
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	ED-307572	D SILICON H 1SS131
D5	ED-388320J	D ZENER H HZS12B3L
D6	ED-307572	D SILICON H 1SS131
D7	ED-388320J	D ZENER H HZS12B3L
D8	ED-511907	D SILICON 1N4002 100/1.0A
FR1	*ER-331188	R FUSE H S10 ERD2FC 1/4W 8R2J
FR2	*ER-332225	R FUSE H S10 ERD2FC 1/4W 56R0G
IC1A	*EI-394709J	IC STK4142-2 [570]
IC1B	*EI-358554	IC STK4152II [670]
L1	EO-403613J	COIL FIX 2 202AK-018A 2R2K
L2	EO-403613J	COIL FIX 2 202AK-018A 2R2K
R9	ER-397193J	R OMF V T05 FS 1W 100J
R10	ER-397193J	R OMF V T05 FS 1W 100J
R59	ER-397193J	R OMF V T05 FS 1W 100J
R60	ER-397193J	R OMF V T05 FS 1W 100J
TR1	ET-354365	TR DTC114YS
TR2	ET-375983	TR DTA124TS
F201A	*EF-364518	FUSE BET T 250V 2.50A [570]
F201B	*EF-359225	FUSE BET T 250V 3.15A [670]
F202A	*EF-364518	FUSE BET T 250V 2.50A [570]
F202B	*EF-359225	FUSE BET T 250V 3.15A [670]
F203A	*EF-359225	FUSE BET T 250V 3.15A [570]
F203B	*EF-359086	FUSE BET T 250V 4.00A [670]
F204A	*EF-359225	FUSE BET T 250V 3.15A [570]
F204B	*EF-359086	FUSE BET T 250V 4.00A [670]

5. POWER SUPPLY P.C BOARD

Ref. No.	Part No.	Description
C201	EC-363491	C EC V CUT SME 222M 25.0DC
C203	EC-363491	C EC V CUT SME 222M 25.0DC
C251	*EC-389414J	C CE V DE7090 B102K 400AC
D201	*ED-511907	D SILICON 1N4002 100/1.0A
D202	*ED-511907	D SILICON 1N4002 100/1.0A
D203	*ED-511907	D SILICON 1N4002 100/1.0A
D204	*ED-511907	D SILICON 1N4002 100/1.0A
D205	*ED-511907	D SILICON 1N4002 100/1.0A
D206	*ED-511907	D SILICON 1N4002 100/1.0A
D207	ED-388320J	D ZENER H HZS12B3L
D208	ED-388320J	D ZENER H HZS12B3L
D209	ED-388320J	D ZENER H HZS12B3L
D210	ED-400171J	D ZENER H HZS6C2L
D211	ED-400171J	D ZENER H HZS6C2L
D214	ED-307572	D SILICON H 1SS131
D215	*ED-511907	D SILICON 1N4002 100/1.0A
D216	*ED-511907	D SILICON 1N4002 100/1.0A
FR208	*ER-401042J	R FUSE V T05 ERD2FCV 1/4W33R0G
J6	EJ-408717J	SOCKET CFG1115-0121 RED 15P
L203	*EO-338409	COIL LF FKOB160MH02 250UH
TM201	EJ-408698J	TERMINAL PUSH LQR0810-0006 8P [SP TERMINAL]
TR201	ET-371688	TR FET 2SK381 D F05
TR202	*ET-366581	TR 2SD1762 E,F
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR204	*ET-373025	TR 2SD1944 J1,J2,K
TR205	ET-397160J	TR 2SC3330 R,S,T,U,V
TR206	*ET-352726	TR 2SA1392 T,U
TR207	ET-353899	TR 2SA1317 S,T,U
TR208	*ET-366581	TR 2SD1762 E,F
TR209	ET-397160J	TR 2SC3330 R,S,T,U,V
TR210	ET-354365	TR DTC114YS
TR211	*ET-366581	TR 2SD1762 E,F
F1A	*EF-359007	FUSE BET T 250V 1.25A [U,B,S] [570]
F1B	*EF-601964	FUSE SEMKO T 250V 1.60A [U,B,S] [670]
F2A	*EF-359007	FUSE BET T 250V 1.25A [U] [570]
F2B	*EF-601964	FUSE SEMKO T 250V 1.60A [U] [670]
F101	*EF-601964	FUSE SEMKO T 250V 1.60A
F102	*EF-601964	FUSE SEMKO T 250V 1.60A
F103	*EF-358974	FUSE BET T 250V 630MA
F104	*EF-358974	FUSE BET T 250V 630MA

6. BALANCE VR P.C BOARD

Ref. No.	Part No.	Description
TR301	ET-354365	TR DTC114YS
TR302	ET-353899	TR 2SA1317 S,T,U
TR303	ET-353899	TR 2SA1317 S,T,U
TR304	ET-397160J	TR 2SC3330 R,S,T,U,V
TR305	ET-397160J	TR 2SC3330 R,S,T,U,V
VR301	EV-408707J	VR ROTARY RK11K1140 SP W104 [BALANCE VR]

7. MAIN VR P.C BOARD

Ref. No.	Part No.	Description
VR401	EV-408811J	VR SPL EUW M06 022B15 B104X2 [MAIN VR]

8. PHONE/SUR SW P.C BOARD

Ref. No.	Part No.	Description
J501	EJ-394455J	PHONE J 3P YKB21-5006 6.3
R501	ER-397194J	R OMF V T05 FS 1W 331J
R502	ER-397194J	R OMF V T05 FS 1W 331J
SW501	ES-408695J	SW PUSH SPUL12 2-02-02N [SURROUND SW]

9. POWER SW P.C BOARD

Ref. No.	Part No.	Description
TS601	ES-408703J	SW TACT EVQ 233 05R T05 [POWER SW]

10. LED P.C BOARD

Ref. No.	Part No.	Description
D701	ED-394509J	D LED GL3HY43 ORANGE

11. DECK P.C BOARD

Ref. No.	Part No.	Description
D101	ED-307572	D SILICON H 1SS131
D151	ED-307572	D SILICON H 1SS131
D301	ED-307572	D SILICON H 1SS131
D351	ED-307572	D SILICON H 1SS131
D401	*ED-391003J	D ZENER H HZS4C3
D501	ED-307572	D SILICON H 1SS131
D502	ED-307572	D SILICON H 1SS131
D503	ED-307572	D SILICON H 1SS131
D504	ED-307572	D SILICON H 1SS131
D505	ED-307572	D SILICON H 1SS131
D601	ED-307572	D SILICON H 1SS131
D602	*ED-408743J	D ZENER H HZS11B3L
D651	ED-307572	D SILICON H 1SS131
D652	ED-307572	D SILICON H 1SS131
D725	ED-511907	D SILICON 1N4002 100/1.0A
D726	ED-511907	D SILICON 1N4002 100/1.0A
D761	ED-307572	D SILICON H 1SS131
D762	ED-307572	D SILICON H 1SS131
D763	ED-624903	D SILICON H 1S2473
FL101	EO-356809	COIL TUN 1 100Z-121 100.00KHZ
FL151	EO-356809	COIL TUN 1 100Z-121 100.00KHZ
FL301	EO-356809	COIL TUN 1 100Z-121 100.00KHZ
FL351	EO-356809	COIL TUN 1 100Z-121 100.00KHZ
IB601	EH-408820J	COMP R RGL10T 472J
IB602	EH-408713J	COMP R RGL10T 332J
IB603	EH-408821J	COMP R RGL12T 473J
IC101	EI-310036	IC TC4066BP
IC102	EI-393323J	IC M5218AL-771
IC201	EI-389322J	IC CXA1101P [570]
IC202	EI-394573J	IC CXA1331S [670]
IC301	EI-393323J	IC M5218AL-771
IC551	EI-394574J	IC LA2000
IC601	EI-408700J2	IC UPD75108CW-W25 MXA1DK3
IC602	EI-387938J	IC HD74LS05P
J201	EJ-394445J	SOCKET 52303-1411 BLACK 14P
L301	EO-394589J	COIL FIX 1 RCP095 822J
L302	EO-393645J	COIL FIX 1 RCP095 392J
L351	EO-394589J	COIL FIX 1 RCP095 822J
L352	EO-393645J	COIL FIX 1 RCP095 392J
L401	EO-403270J	COIL FIX 1 EL0405RA T05 101J
T401	EO-408699J	COIL OSC 1 T2134 100.0KHZ
TR101	ET-408709J	TR FET 2SK373 Y,GR T05
TR102	ET-375986	TR DTC124TS
TR103	ET-354364	TR DTC143TS
TR104	ET-354364	TR DTC143TS
TR105	ET-354364	TR DTC143TS
TR106	ET-354364	TR DTC143TS [670]
TR107	ET-370310	TR DTC144TS
TR108	ET-370310	TR DTC144TS
TR151	ET-408709J	TR FET 2SK373 Y,GR T05
TR152	ET-375986	TR DTC124TS
TR153	ET-354364	TR DTC143TS
TR154	ET-354364	TR DTC143TS
TR155	ET-354364	TR DTC143TS
TR156	ET-354364	TR DTC143TS [670]
TR157	ET-370310	TR DTC144TS
TR158	ET-370310	TR DTC144TS
TR181	ET-369248	TR DTA114YS
TR182	ET-370310	TR DTC144TS

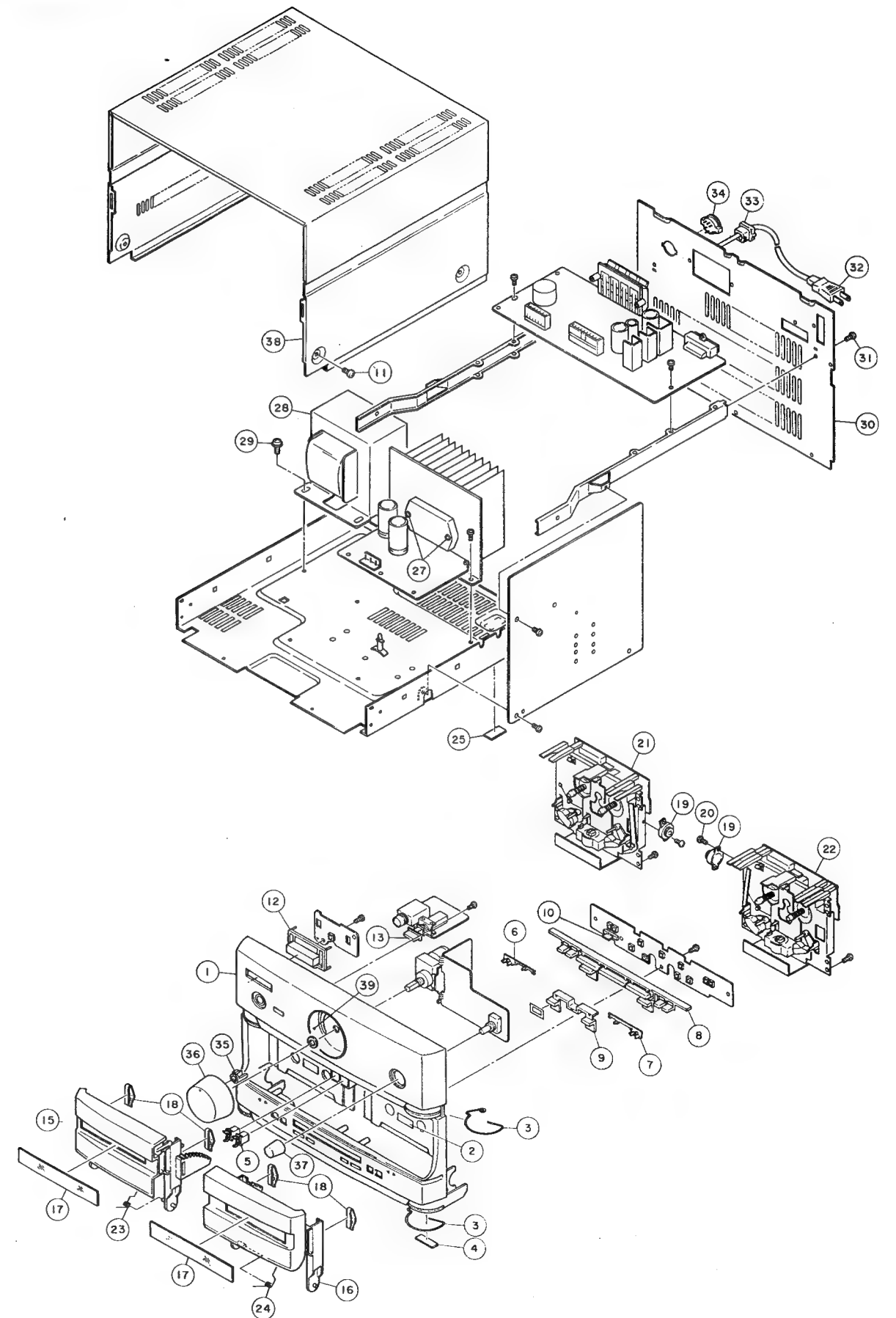
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TR183	ET-370310	TR DTC144TS
TR184	ET-369248	TR DTA114YS
TR185	ET-369248	TR DTA114YS
TR186	ET-369248	TR DTA114YS
TR187	ET-354414	TR DTC144ES
TR188	ET-354414	TR DTC144ES
TR201	ET-397160J	TR 2SC3330 R,S,T,U,V
TR202	ET-397160J	TR 2SC3330 R,S,T,U,V
TR251	ET-397160J	TR 2SC3330 R,S,T,U,V
TR252	ET-397160J	TR 2SC3330 R,S,T,U,V
TR281	ET-354414	TR DTC144ES
TR301	ET-397160J	TR 2SC3330 R,S,T,U,V
TR302	ET-354364	TR DTC143TS
TR303	ET-354364	TR DTC143TS
TR304	ET-354364	TR DTC143TS
TR305	ET-408777J	TR FET 2SJ40 D,E T05
TR351	ET-397160J	TR 2SC3330 R,S,T,U,V
TR352	ET-354364	TR DTC143TS
TR353	ET-354364	TR DTC143TS
TR354	ET-354364	TR DTC143TS
TR355	ET-408777J	TR FET 2SJ40 D,E T05
TR381	ET-369248	TR DTA114YS
TR401	ET-354414	TR DTC144ES
TR402	ET-354414	TR DTC144ES
TR403	ET-397160J	TR 2SC3330 R,S,T,U,V
TR404	ET-373391	TR DTC143ZS
TR405	*ET-373025	TR 2SD1944 J1,J2,K
TR406	*ET-397160J	TR 2SC3330 R,S,T,U,V
TR407	*ET-397160J	TR 2SC3330 R,S,T,U,V
TR408	ET-354364	TR DTC143TS
TR409	ET-400741J	TR 2SC3708 T T05
TR410	ET-400741J	TR 2SC3708 T T05
TR501	ET-397160J	TR 2SC3330 R,S,T,U,V
TR502	ET-397160J	TR 2SC3330 R,S,T,U,V
TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
TR504	ET-397160J	TR 2SC3330 R,S,T,U,V
TR505	ET-397160J	TR 2SC3330 R,S,T,U,V
TR506	ET-397160J	TR 2SC3330 R,S,T,U,V
TR601	ET-373485	TR DTC123JS
TR602	ET-369248	TR DTA114YS
TR603	ET-373382	TR DTA143ZS
TR606	ET-354365	TR DTC114YS
TR607	ET-354365	TR DTC114YS
TR608	ET-361736	TR 2SC3576
TR609	ET-361736	TR 2SC3576
TR610	ET-373485	TR DTC123JS
TR611	ET-373391	TR DTC143ZS
TR612	ET-361736	TR 2SC3576
TR613	ET-361736	TR 2SC3576
TR614	ET-373485	TR DTC123JS
TR615	ET-373391	TR DTC143ZS
TR616	ET-373391	TR DTC143ZS
TR617	ET-408772J	TR 2SA1318 S,T,U T05
TR618	ET-408772J	TR 2SA1318 S,T,U T05
TR653	ET-353899	TR 2SA1317 S,T,U
TR654	ET-353899	TR 2SA1317 S,T,U
TR655	ET-373382	TR DTA143ZS
TR656	ET-396072J	TR 2SD2159 V,W
TR657	ET-396072J	TR 2SD2159 V,W
TR658	ET-396072J	TR 2SD2159 V,W
TR659	ET-397160J	TR 2SC3330 R,S,T,U,V
TR660	ET-397160J	TR 2SC3330 R,S,T,U,V
TR761	ET-373985	TR DTA144TS
TR762	ET-354414	TR DTC144ES
TR763	ET-354414	TR DTC144ES
TR764	ET-397160J	TR 2SC3330 R,S,T,U,V
TR765	ET-354414	TR DTC144ES
VR101	EV-404323J	R S-FIX H V8K4-11 (1S) 0.10W332 [670]
VR102	EV-404323J	R S-FIX H V8K4-11 (1S) 0.10W332 [670]
VR151	EV-404323J	R S-FIX H V8K4-11 (1S) 0.10W332 [670]
VR152	EV-404323J	R S-FIX H V8K4-11 (1S) 0.10W332 [670]
VR301	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332 [670]
VR351	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332 [670]
VR402	EV-341251	R S-FIX V TM8KH1-1S 0.50W104 [670]
VR403	EV-341251	R S-FIX V TM8KH1-1S 0.50W104 [670]

Ref. No.	Part No.	Description
VR651	EV-355380	R S-FIX H V8K4-11 (1S) 0.10W202
VR652	EV-355380	R S-FIX H V8K4-11 (1S) 0.10W202
VR653	EV-394561J	R S-FIX H V8K4-11 (1S) 0.10W102
VR654	EV-394561J	R S-FIX H V8K4-11 (1S) 0.10W102
X601	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ

12. OPERATION P.C BOARD

Ref. No.	Part No.	Description
D801	ED-389638J	D LED GL3HY47 YELLOW
D802	ED-389638J	D LED GL3HY47 YELLOW
D803	ED-389638J	D LED GL3HY47 YELLOW
D804	ED-389638J	D LED GL3HY47 YELLOW
D805	ED-389638J	D LED GL3HY47 YELLOW
D806	ED-389638J	D LED GL3HY47 YELLOW
D807	ED-394723J	D LED GL3HY44 YELLOW
D808	ED-394723J	D LED GL3HY44 YELLOW
D809	ED-394724J	D LED GL3PR43 RED
SW801A	ES-408706J	SW SLIDE SSSS91 L=2 1-01-02N [570]
SW801B	ES-408708J	SW SLIDE SSSS91 L=2 1-01-03 [670]
TS801	ES-408703J	SW TACT EVQ 233 05R T05
TS802	ES-408703J	SW TACT EVQ 233 05R T05
TS803	ES-408703J	SW TACT EVQ 233 05R T05
TS804	ES-408703J	SW TACT EVQ 233 05R T05
TS805	ES-408703J	SW TACT EVQ 233 05R T05
TS806	ES-408703J	SW TACT EVQ 233 05R T05
TS807	ES-408703J	SW TACT EVQ 233 05R T05
TS808	ES-408703J	SW TACT EVQ 233 05R T05
TS809	ES-408703J	SW TACT EVQ 233 05R T05
TS810	ES-408703J	SW TACT EVQ 233 05R T05
TS811	ES-408703J	SW TACT EVQ 233 05R T05

FINAL ASSEMBLY



13. FINAL ASSEMBLY

Ref. No.	Part No.	Description
1A	SP-414252M	PANEL FRONT AX-570 (SG)
1B	SP-414271M	PANEL FRONT AX-670 (SG)
2	SE-394092M	REFLECTOR (SG)
3	SZ-414249M	RING FOOT (SG)
4	SA-394136M	CUSHION FOOT (SG)
5	SZ-401094J	LATCH 3Y18
6	SE-414264M	LENS OP (L) (SG)
7	SE-414265M	LENS OP (R) (SG)
8	SB-414255M	BUTTON OP (SG)
9	SB-414256J	BUTTON TAPE
10	SK-407866M	KNOB SLIDE (SG)
11	ZS-394414J	BT BID30X08STL BZN
12	SB-414258M	BUTTON POWER (SG)
13	SB-414259M	BUTTON SURROUND (SG)
14	ZS-407886J	BT PAN30X08STL BZN C100
15	SP-414253M	LID PANEL (L) (SG)
16	SP-414254M	LID PANEL (R) (SG)
17	SE-414263M	LID WINDOW (SG)
18	ZG-394158M	SP PLATE CASSETTE HOLDER (SG)
19	MZ-411689J	DUMPER 2G50-E
20	ZS-357727	ST PAN20X05STL CMT
21	BB-414756M1	MECHA GAK9311 [TAPE 1]
22	BB-414757M1	MECHA GAK9611 [TAPE 2]
23	ZG-407841J	SP TORSION EJECT (L)
24	ZG-407842J	SP TORSION EJECT (R)
25	SA-407840M	CUSHION FOOT REAR (SG)
26	ZS-404181J	BT BID30X06STL BZN
27	ZS-395789J	BT BID30X16STL BZN
28A	*BT-408727M	TRANS POW C1029 U [570]
28B	*BT-408728M	TRANS POW C1029 EV [E] [570]
28C	*BT-416526M	TRANS POW C1032 EV [V] [570]
28D	*BT-408729M	TRANS POW C1029 BS [570]
28E	*BT-408730M	TRANS POW C1030 U [670]
28F	*BT-408731M	TRANS POW C1030 EV [E] [670]
28G	*BT-416525M	TRANS POW C1033 EV [V] [670]
28H	*BT-408732M	TRANS POW C1030 BS [670]
29	ZS-346742	ST BID40X08STL CMT CUP
30A	SP-414428M	PANEL REAR AX-570 (U) (SG)
30B	SP-414429M	PANEL REAR AX-570 (E) (SG)
30C	SP-414430M	PANEL REAR AX-570 (V) (SG)
30D	SP-414431M	PANEL REAR AX-570 (B,S) (SG)
30E	SP-414432M	PANEL REAR AX-670 (U) (SG)
30F	SP-414433M	PANEL REAR AX-670 (E) (SG)
30G	SP-414434M	PANEL REAR AX-670 (V) (SG)
30H	SP-414435M	PANEL REAR AX-670 (B,S) (SG)
31	ZS-394412J	BT BID30X08STL BZN PROJECTION
32A	*EW-408722M	AC CORD200SZ4WH03VVH2F VHR3N U
32B	*EW-408724M	AC CORD200 SE1H03VVH2F VHR3N E [E,V]
32C	*EW-415021M	AC CORD 200 *A1030-B B
32D	*EW-412361M	AC CORD 200 SA-5VCTFK VHR-3N S
33	*EZ-371605	BUSH CORD 2271
34	*ES-349070	SW SELECTOR YKS11-0002 02-4 [SW901]
35	SE-407867M	LENS VR (SG)
36	SK-414260M	KNOB VR (SG)
37	SK-414261M	KNOB BALANCE (SG)
38	SP-407859M	COVER UPPER (SG)
39	SZ-414262M	RING VR (SG)

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

14. ACCESSARY

Ref. No.	Part No.	Description
1	AX-411759M	REMOCON RC-S670

INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AX411759M	14-1	ED408743J	11-D602	ER397193J	4-R60	ET370310	11-TR108
BAC1029T050A	3-1A	ED511907	4-D2	ER397194J	8-R501	ET370310	11-TR157
BAC1029T050B	3-1B	ED511907	4-D3	ER397194J	8-R502	ET370310	11-TR158
BAC1029T050C	3-1C	ED511907	4-D8	ER401042J	5-FR208	ET370310	11-TR182
BAC1029T050D	3-1D	ED511907	5-D201	ES349070	13-34	ET370310	11-TR183
BAC1029T050E	3-1E	ED511907	5-D202	ES408695J	8-SW501	ET371688	5-TR201
BAC1029T050F	3-1F	ED511907	5-D203	ES408703J	9-TS601	ET373025	5-TR204
BAC1029T050G	3-1G	ED511907	5-D204	ES408703J	12-TS801	ET373025	11-TR405
BAC1029T050H	3-1H	ED511907	5-D205	ES408703J	12-TS802	ET373382	11-TR603
BAC1029T060D	3-2A	ED511907	5-D206	ES408703J	12-TS803	ET373382	11-TR655
BAC1029T060E	3-2B	ED511907	5-D215	ES408703J	12-TS804	ET373391	11-TR404
BB414756M1	13-21	ED511907	5-D216	ES408703J	12-TS805	ET373391	11-TR611
BB414757M1	13-22	ED511907	11-D725	ES408703J	12-TS806	ET373391	11-TR615
BF733191J	2-103	ED511907	11-D726	ES408703J	12-TS807	ET373391	11-TR616
BF733192J	2-104	ED624903	11-D763	ES408703J	12-TS808	ET373485	11-TR601
BM729993J	2-89	EF358974	5-F103	ES408703J	12-TS809	ET373485	11-TR610
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BT408728M	13-28B	EF359007	5-F1A	ES408703J	12-TS811	ET373985	11-TR761
BT408729M	13-28D	EF359007	5-F2A	ES408706J	12-SW801A	ET375983	4-TR2
BT408730M	13-28E	EF359086	4-F203B	ES408708J	12-SW801B	ET375986	11-TR102
BT408731M	13-28F	EF359086	4-F204B	ES733164J	2-81	ET375986	11-TR152
BT408732M	13-28H	EF359225	4-F201B	ES733468J	2-80	ET396072J	11-TR656
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BZ733179J	2-102	EF359225	4-F204A	ET353899	6-TR302	ET397160J	5-TR203
BZ733194J	2-106	EF364518	4-F201A	ET353899	6-TR303	ET397160J	5-TR205
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ED307572	11-D502	EI394574J	11-IC551	ET354364	11-TR408	ET397160J	11-TR505
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ED307572	11-D762	EO338409	5-L203	ET354414	11-TR281	ET408709J	11-TR151
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ED389638J	12-D806	EO403613J	4-L2	ET366581	5-TR208	EV394561J	11-VR654
ED391003J	11-D401	EO408699J	11-T401	ET366581	5-TR211	EV403967J	11-VR301
ED394509J	10-D701	EP733165J	2-82	ET369248	11-TR181	EV403967J	11-VR351
ED394708J	4-D1	ER331188	4-FR1	ET369248	11-TR184	EV404323J	11-VR101
ED394723J	12-D807	ER332225	4-FR2	ET369248	11-TR185	EV404323J	11-VR102
ED394723J	12-D808	ER341091	2-73	ET369248	11-TR186	EV404323J	11-VR151
ED394724J	12-D809	ER397193J	4-R9	ET369248	11-TR381	EV404323J	11-VR152
ED400171J	5-D210	ER397193J	4-R10	ET369248	11-TR602	EV408707J	6-VR301
ED400171J	5-D211	ER397193J	4-R59	ET370310	11-TR107	EV408811J	7-VR401

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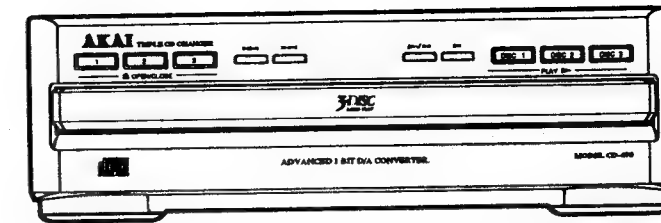
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EW415021M	13-32C	ZG407841J	13-23				
EW733167J	2-84	ZG407842J	13-24				
EW733169J	2-85B	ZG733091J	2-6				
EW733473J	2-85A	ZG733133J	2-50				
EZ371605	13-33	ZG733134J	2-51				
HP733172J	2-90A	ZG733136J	2-53				
HR733173J	2-90B	ZG733138J	2-55				
HZ733090J	2-5	ZG733139J	2-56				
HZ733119J	2-36	ZG733140J	2-57				
MA733472J	2-99	ZG733141J	2-58				
MB733469J	2-87	ZG733142J	2-59				
MB733470J	2-88	ZG733143J	2-60				
ML733088J	2-3	ZG733144J	2-61				
ML733106J	2-23	ZG733145J	2-62				
ML733111J	2-28	ZG733146J	2-63A				
ML733115J	2-32	ZG733147J	2-63B				
ML733117J	2-34	ZG733154J	2-70				
ML733118J	2-35	ZG733463J	2-2				
ML733123J	2-40	ZS321320	2-93				
ML733124J	2-41	ZS346742	13-29				
ML733125J	2-42	ZS357727	2-97				
MR733129J	2-46	ZS357727	13-20				
MR733466J	2-45	ZS394412J	13-31				
MS733097J	2-13	ZS394414J	13-11				
MS733122J	2-39	ZS395789J	13-27				
MT733109J	2-26	ZS404181J	13-26				
MT733110J	2-27	ZS407886J	13-14				
MZ411689J	13-19	ZS432843	2-95				
MZ733096J	2-12	ZS460440	2-91				
MZ733104J	2-21	ZS733467J	2-68				
MZ733105J	2-22	ZS733471J	2-96				
MZ733107J	2-24	ZS733474J	2-94				
MZ733108J	2-25	ZW733149J	2-65				
MZ733116J	2-33	ZW733157J	2-74				
MZ733120J	2-37	ZW733158J	2-75				
MZ733121J	2-38	ZW733159J	2-76				
MZ733131J	2-48	ZW733160J	2-77				
MZ733132J	2-49	ZW733161J	2-78				
SA394136M	13-4	ZW733162J	2-79				
SA407840M	13-25						
SB414255M	13-8						
SB414256J	13-9						
SB414258M	13-12						
SB414259M	13-13						
SE394092M	13-2						
SE407867M	13-35						
SE414263M	13-17						
SE414264M	13-6						
SE414265M	13-7						
SK407866M	13-10						
SK414260M	13-36						
SK414261M	13-37						
SP407859M	13-38						
SP414252M	13-1A						
SP414253M	13-15						
SP414254M	13-16						
SP414271M	13-1B						
SP414428M	13-30A						
SP414429M	13-30B						
SP414430M	13-30C						
SP414431M	13-30D						
SP414432M	13-30E						
SP414433M	13-30F						
SP414434M	13-30G						
SP414435M	13-30H						
SZ401094J	13-5						
SZ414249M	13-3						

ABBREVIATIONS (AMPLIFIER)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A	Analog	MC	Moving Coil
AC	Alternating Current	MM	Moving Magnet
AMP	AMPlifier	PCB	Printed Circuit Board
CD	Compact Disc	R	Right
COM	COMmon	REG	REGulator
D	Digital	REC	RECORD
D/A	Digital to Analog	TR	TRansistor
DAC	Digital to Analog Converter	SW	SWitch
DAT	Digital Audio Tape recorder	V.AMP	Voltage AMPlifier
DC	Direct Current	V.DISC	Video DISC
GND	GrouND	VR	Variable Resistance
L	Left	VTR	Video Tape Recorder
LED	Light Emitting Diode		

ABBREVIATIONS (CASSETTE)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AC	Alternating Current	MIN	MINute
A/D	Analog/Digital	MML	Maximum Modulation Level
AF	Auto Fader	MOL	Maximum Output Level
AMP	AMPlifier	MPX	Multi PleX
AR	Anti Recording	NC	Not Connected (No Connection)
AT BIAS	Auto Turning BIAS	NFB	Negative Feed Back
ATT	ATTenuator	NORM	NORMal
BAL	BALance	NR	Noise Reduction
BEF	Band Elimination Filter	OSC	OSCillator (OSCillation)
BSS	Blank Search System	P	Pulse
CAP M	CAPstan Motor	PB	Play Back
CH	CHannel	QMSS	Quick Memory Search System
COMP	COMParator	QR	Quick Reverse
CONT	CONTinuance	R CH	Right CHannel
CRLP	Computer Recording Level Processing	REC	RECORD (RECORDing)
CS	Chip Select	REV	REVerse
D/A	Digital/Analog	ROT	ROTation
DC	Direct Current	REW	REWind
DET	DETECTOR	SEC	SECond
DISCRI	DISCRIminator	SELE	SELEctor
DUB	DUBbing	SENS	SENSitivity
EQ	EQUALizer	SEPP	Single Ended Push Pull
FF (or F.FWD)	Fast Foward	SIG	SIGnal
FLD	FLUorescent Display	SPECT	SPECTrum
FREQ	FREQUENCY	STD	STANdard
FWD	ForWARd	SW	SWitch
GND	GrouND	SYSCON	SYStem CONtrol
H	High	TP	Test Point
HPF	High Pass Filter	TRIG	TRIGa
IND	INDicator	VCA	Voltage Control Attenuator
IPLS	Instant Program Location System	VOL	VOLUME
L	Low	VOLT	VOLTage
L CH	Left CHannel	VR	Variable Resistor
LED	Light Emitting Diode	X'TAL	cysTAL
MEMO	MEMOry	X1	Normal speed
MICOM	MicroCOMputer	X2	Dubble speed



MODEL CD-670

COMPACT DISC PLAYER

MODEL CD-670

SPECIFICATIONS

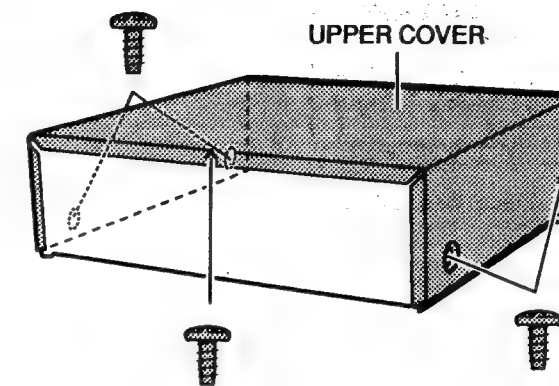
Type	3 discs auto changer
Pick up system	3 beam laser pick-up
Sampling frequency	44.1kHz
Error correction system	Cross interleave reed solomon
Number of channels	2 channel stereo
Frequency response	20 to 20,000Hz ± 1 dB
S/N ratio	95dB (A-weight)
Wow & flutter.....	Less than measurable limits
Total harmonic distortion	Less than 0.01% (at 1kHz)
Channel separation	85dB (at 1kHz)
Dynamic range	95dB
Dimensions	270(W) x 88(H) x 324(D)mm
Weight	2.5kg
Power requirement	Supplied from AX-570/670
Power consumption.....	10W

*For improvement purposes, specifications and design are subject to change without notice.

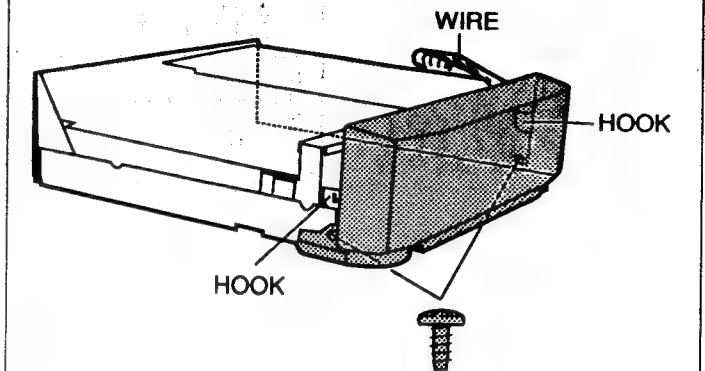
I. DISASSEMBLY

In case of trouble, etc., necessitating dismantling, please dismantle in the order shown in the illustrations.
Reassemble in the reverse order.

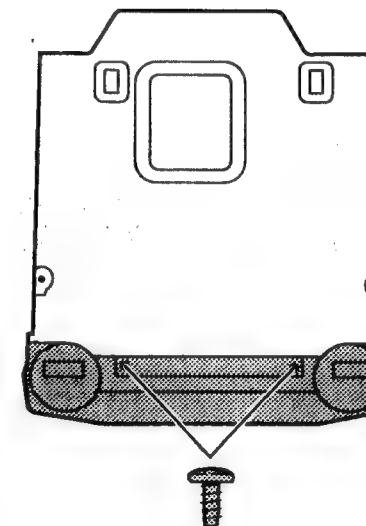
1. Removal of the UPPER COVER



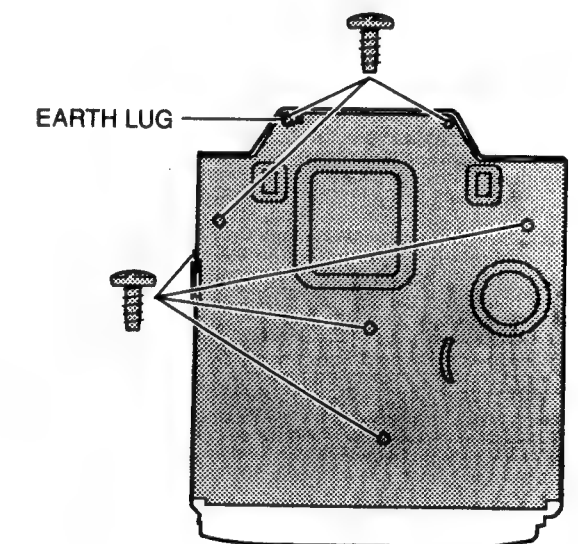
3



2. Removal of the FRONT PANEL



4. Removal of the BOTTOM COVER



II. PRINCIPAL PARTS LOCATION

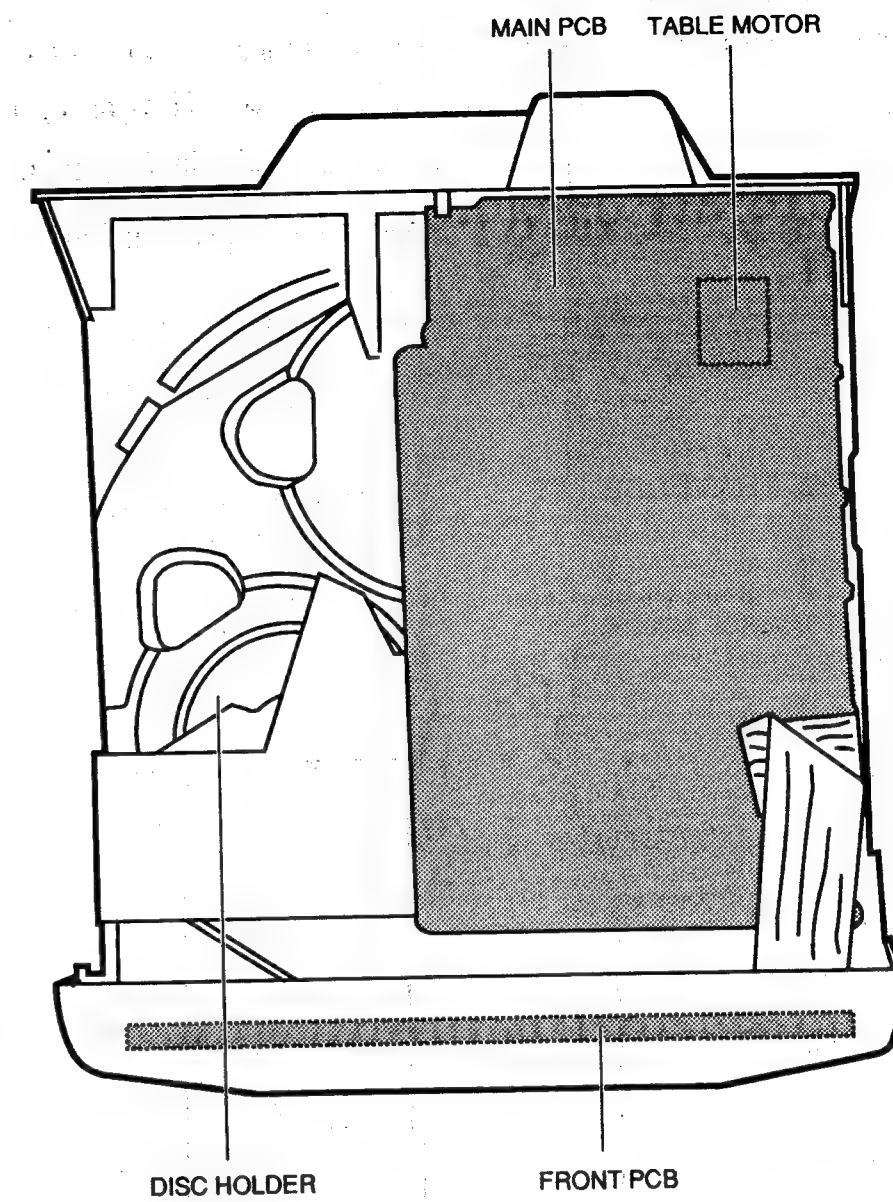


Fig. 2-1 Top view

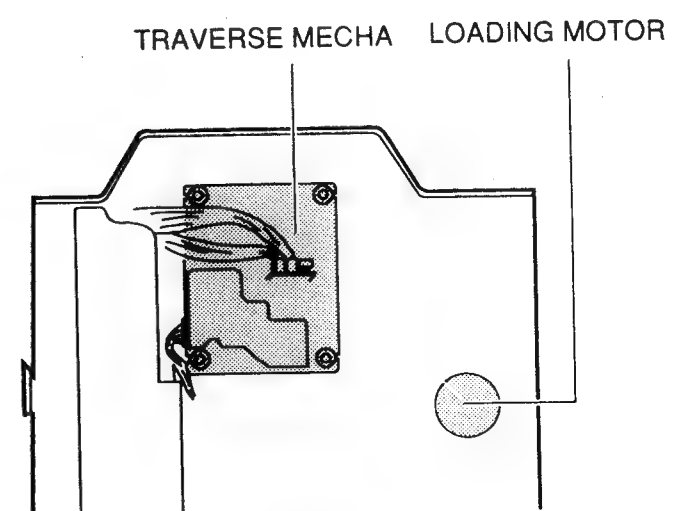
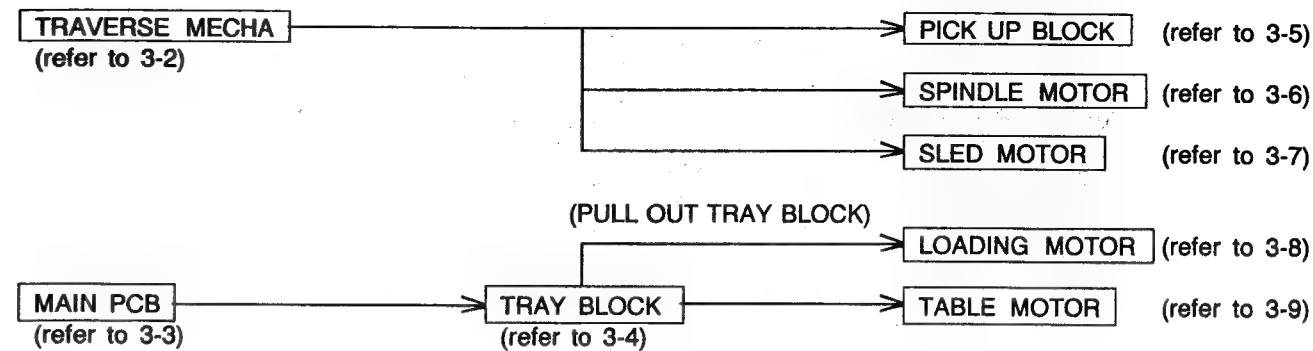


Fig. 2-2 Bottom view

III. REPLACEMENT OF THE PRINCIPAL COMPONENTS

3-1.DISMANTLING PROCEDURE OF THE COMPONENTS

When replacement of the mechanical parts is necessary, replace them using the following procedure.



3-2.REMOVAL OF THE TRAVERSE MECHA.

- 1) Disconnect the three connectors carefully (two connectors are on the PICK UP PCB and the other is on the MOTOR PCB of the TRAVERSE MECHA.).
- 2) Remove the four retaining screws, then remove the TRAVERSE MECHA.

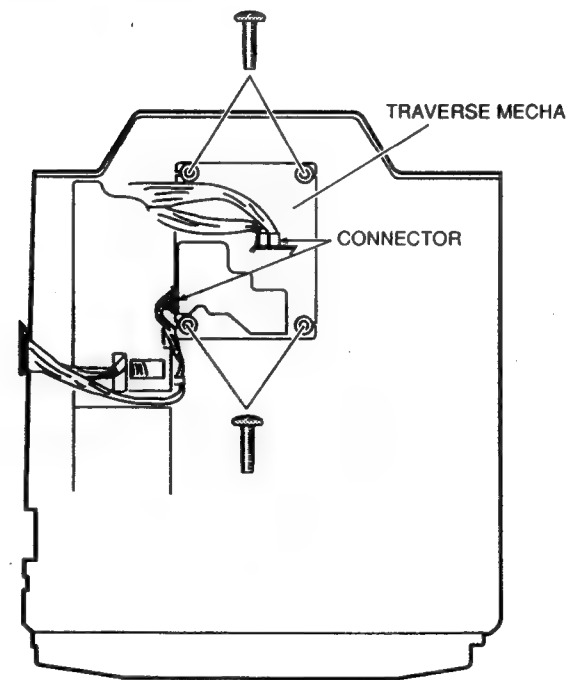


Fig. 3-1

3-3.REMOVAL OF THE MAIN PCB

- 1) Disconnect the P4, P5 and P6 connectors on the MAIN PCB.
- 2) Remove the four retaining screws of the MAIN PCB, then remove the MAIN PCB.

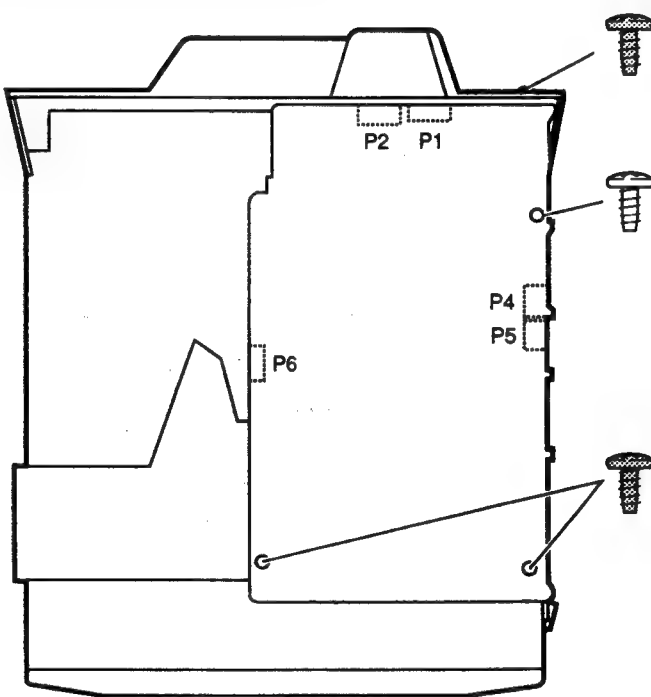
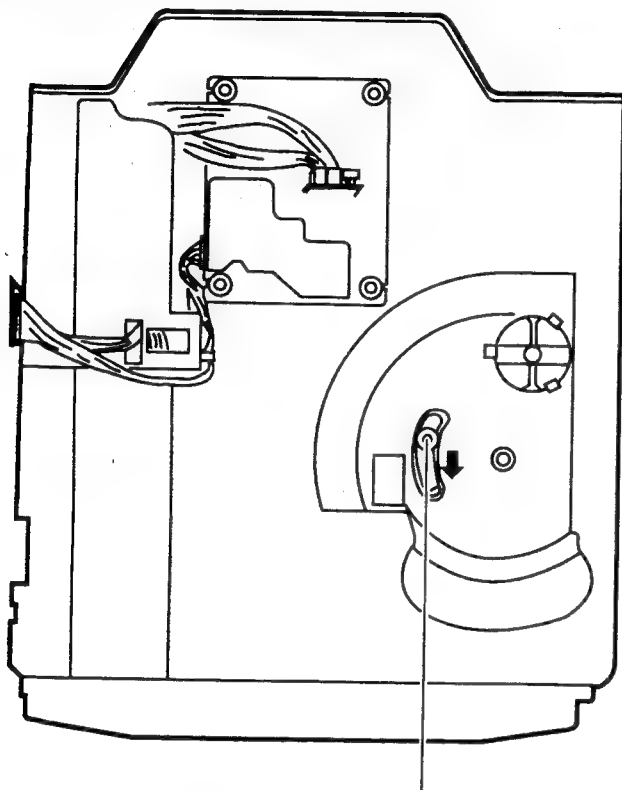


Fig. 3-2

3-4.REMOVAL OF THE TRAY BLOCK

- 1) Remove the MAIN PCB.
- 2) Slide the GEAR HOLDER RETAINING SCREW in the direction of the arrow and pull out the TRAY BLOCK slowly.
- 3) Remove the MAIN PCB HOLDER RETAINING SCREWS then remove the MAIN PCB HOLDER and the BRACKETS on both side.
- 4) Remove the TRAY BLOCK.



GEAR HOLDER RETAINING SCREW

Fig. 3-3

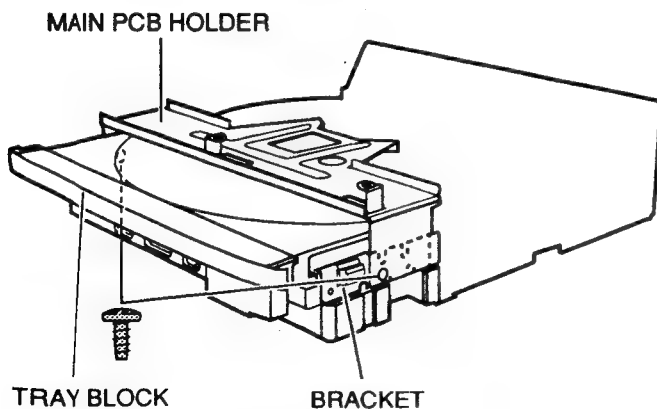


Fig. 3-4

3-5.REPLACEMENT OF THE PICK UP BLOCK

- 1) Remove the TRAVERSE MECHA.
- 2) Push the (A) stopper in the right direction and pull the SLIDE SHAFT in the forward direction to remove the PICK UP BLOCK, then replace the PICK UP BLOCK.
- 3) Reassemble in the reverse order.

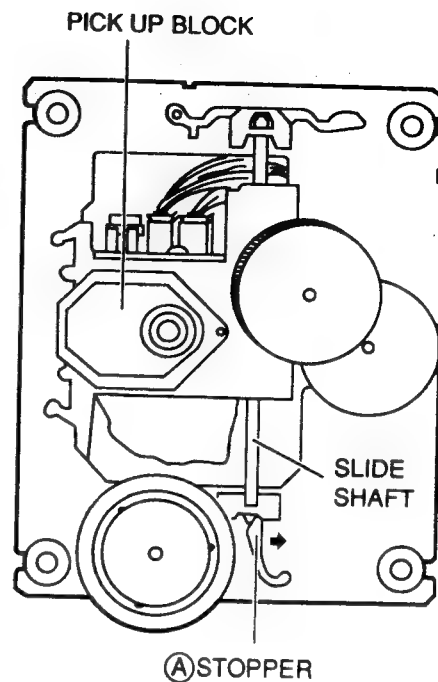


Fig. 3-5

Note : To protect the laser diode from damage caused by high voltage static electricity, a part of the P.C Board on the PICK UP BLOCK has to be shorted (as shown in Fig. 3-6) before disconnecting the connectors. After replacement, be sure to connect the two connectors and then remove the solder at the shorted part before turning the power ON.

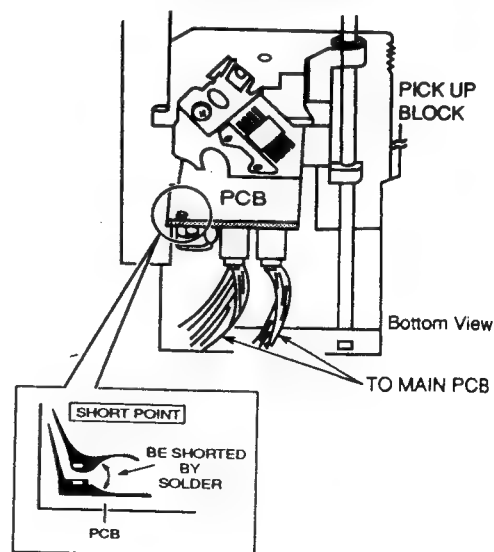


Fig. 3-6

3-6.REPLACEMENT OF THE SPINDLE MOTOR

Replacement of the SPINDLE MOTOR itself is not recommended, because the adjustment of the TURN TABLE height is quite critical and necessitating the use of a special jig.

3-7.REPLACEMENT OF THE SLED MOTOR

- 1) Remove the TRAVERSE MECHA.
- 2) Unsolder the leads of SPINDLE and SLED MOTORS on the MOTOR PCB and then remove the MOTOR PCB.
- 3) Remove the SLED MOTOR RETAINING ⑧ SCREWS, then replace the SLED MOTOR.
- 4) Reassemble in the reverse order.

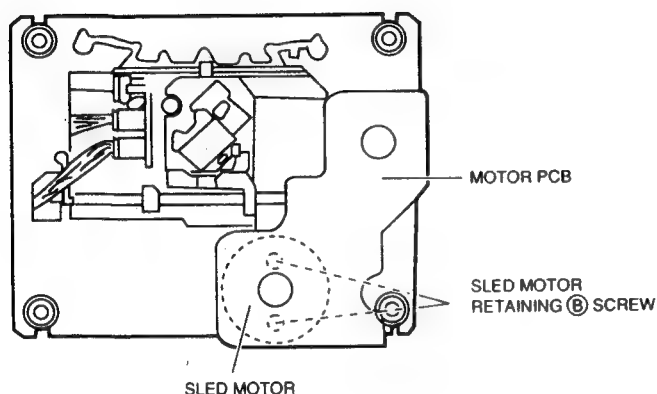


Fig. 3-7

3-8.REPLACEMENT OF THE LOADING MOTOR

- 1) Push the GEAR HOLDER RETAINING SCREW in the direction of the arrow, then pull out the TRAY BLOCK (as shown in Fig. 3-3).
- 2) Remove the LOADING BELT.
- 3) Unsolder the lead wires of the LOADING MOTOR with a soldering iron.
- 4) While opening the LOADING MOTOR's three RETAINING HOOKS, remove and replace the LOADING MOTOR.
- 5) Reassemble in the reverse order.

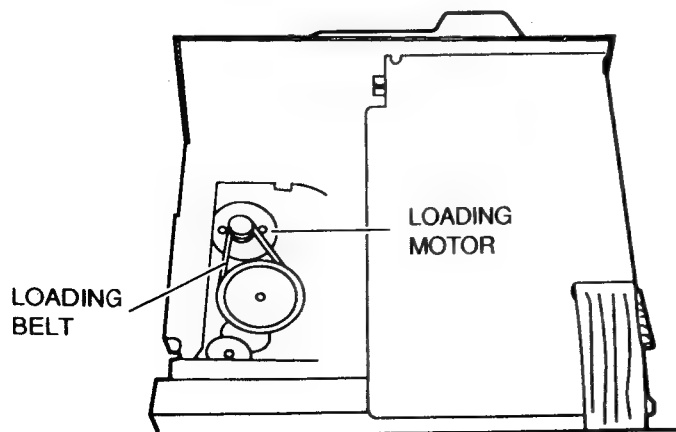


Fig. 3-8

3-9.REPLACEMENT OF THE TABLE MOTOR

- 1) Remove the MAIN PCB.
- 2) Remove the TRAY BLOCK.
- 3) Remove the DISC HOLDER RETAINING SCREW then remove DISC HOLDER.
- 4) Peel off the GEAR COVER then remove the TABLE GEAR (B) and WORM WHEEL TABLE GEAR.
- 5) Unsolder the lead wires of the TABLE MOTOR.
- 6) Remove the TABLE MOTOR while opening the TABLE MOTOR RETAINING HOOK, then replace the TABLE MOTOR.
- 7) Reassemble in the reverse order.

NOTE: 1) When reassembling, make sure that the TABLE GEAR (A)'s hole is aligned with the reference hole on the LOADING TRAY.

2) When installing the DISC HOLDER on the LOADING TRAY, make sure to place the DISC HOLDER so that "DISC 3" is facing upward ("DISC 2" faces right and "DISC1" faces left accordingly).

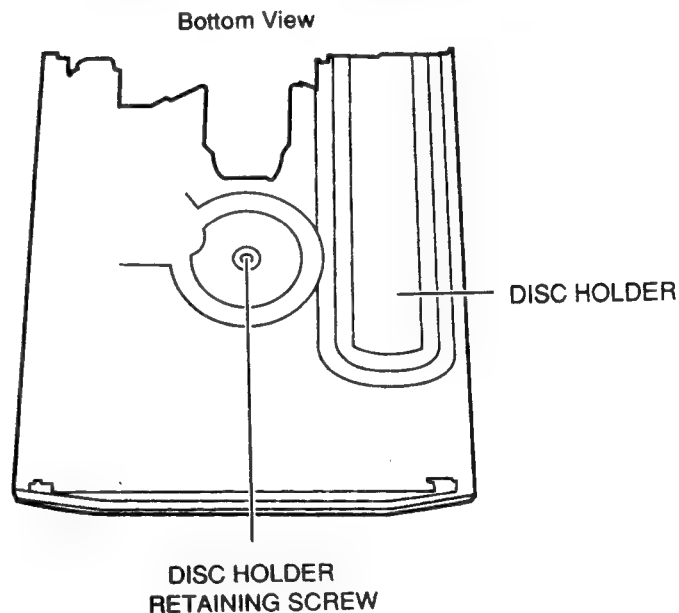


Fig. 3-9

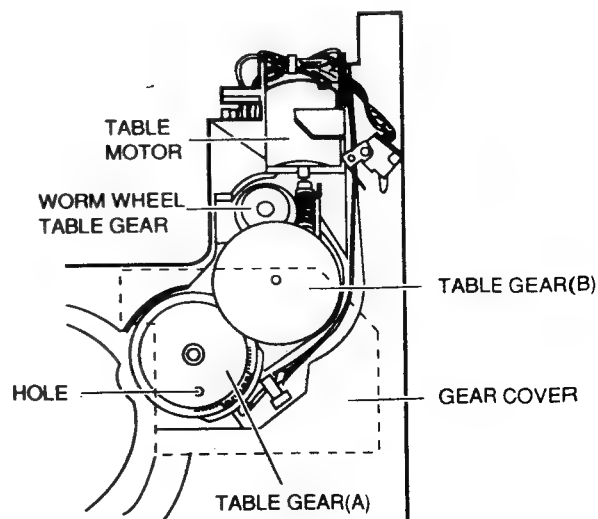


Fig. 3-10

IV. ELECTRICAL ADJUSTMENT

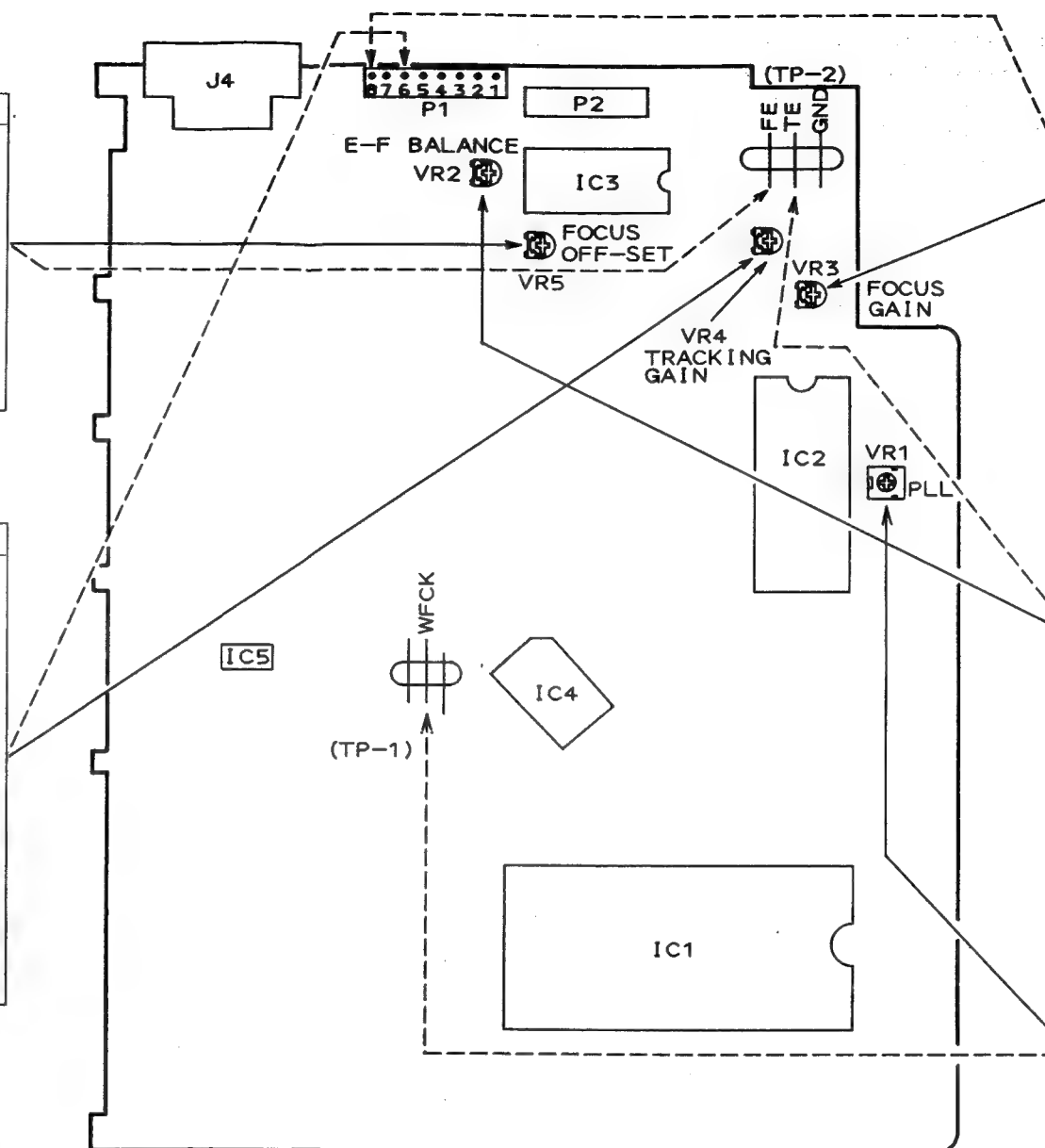
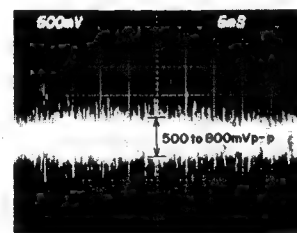
STEP	ADJUSTMENT
1.	TEST DISC
2.	TEST mode
3.	TEST POINT and ADJUSTMENT parts.
4.	REMARK (●), RESULT (*)

Test point

ADJ. part

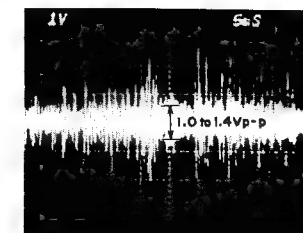
5	FOCUS OFF-SET
1.	Test disc SONY TYPE 3 (AT-711881)
2.	Test mode 2 and 1
3.	FE (TP-2) / VR 5
4.	● Connect a digital DC voltmeter to the TP 2 (FE) and check the voltage A in the test mode 2, then press STOP button and adjust the voltage B so that the reading on the digital DC voltmeter is the same as voltage A. * A = B

4	TRACKING SERVO GAIN
1.	Test disc SONY TYPE 3 (AT-711881)
2.	Test mode 5
3.	P1 ⑥ pin / VR 4
4.	● Connect an oscilloscope to the P1 connector ⑥ pin. * 500 to 800mVp-p

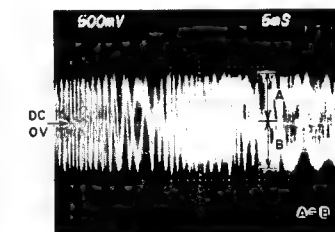


↓
FRONT
MAIN PCB

3	FOCUS SERVO GAIN
1.	Test disc SONY TYPE 3 (AT-711881)
2.	Test mode 5
3.	P1 ⑧ pin / VR 3
4.	● Connect an oscilloscope to the P1 connector ⑧ pin. * 1.0 to 1.4Vp-p



2	E-F BALANCE
1.	Test disc SONY TYPE 3 (AT-711881)
2.	Test mode 3
3.	TE (TP 2) / VR 2
4.	● Connect an oscilloscope to the TP 2 (TE) * A = B



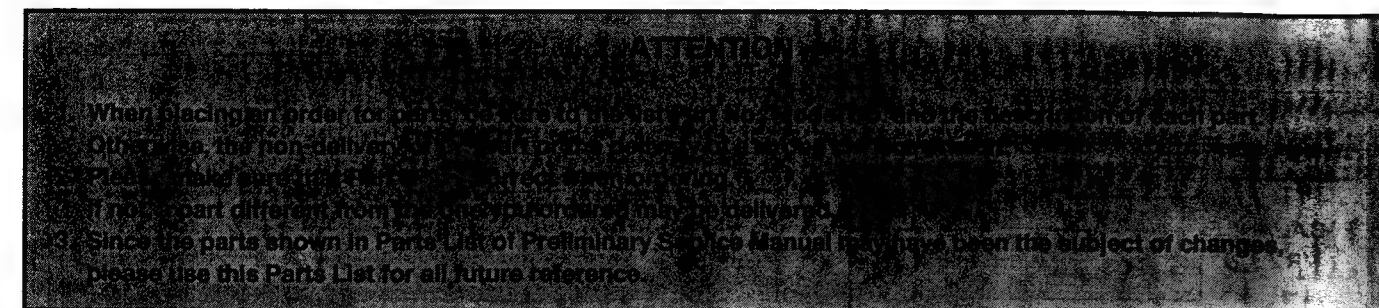
1	PLL
1.	-
2.	Test mode 1
3.	WFCK (TP-1) / VR 1
4.	● Connect a frequency counter to the TP 1 (WFCK). * 7,350 ± 10Hz

TEST MODE	HOW TO SET EACH MODE	FUNCTION	LED 1	LED 2	LED 3	MUSIC CALENDAR
1	While pressing the ■ and ►► buttons, insert the power cord.	● Indicates that unit is set into the TEST mode.	ON	OFF	OFF	1
2	Press the ▲ OPEN/CLOSE DISC 1 button	● FOCUS SERVO is on.	OFF	ON	OFF	2
3	Press the ▲ OPEN/CLOSE DISC 2 button	● CLV-S SERVO is on.	ON	ON	OFF	3
4	Press the ▲ OPEN/CLOSE DISC 3 button	● TRACKING SERVO is on.	OFF	OFF	ON	4
5	Press the PLAY ► DISC 1 button	● CLV-A and SLED SERVO are on.	ON	OFF	ON	5
6	Press the PLAY ► DISC 2 button	● ANTI SHOCK is on	OFF	ON	ON	6

Note :

- Before making adjustments 1 - 5, load a test disc as follows.
After first setting the unit to the test mode 1, press the ► / ■ button to open the disc tray and place a SONY TYPE 3 test disc on the DISC 1 holder. Press the ► / ■ button again to close the tray. Adjustments can now be made.
- The disc tray can be opened or closed by pressing the ► / ■ button (during any mode).
After opening the tray, closing it will move the pick up to the inward position and return the unit to the TEST MODE 1.
- Pressing the ■ button will return the unit to the TEST MODE 1 regardless of the test mode presently engaged. However, the pick up will not be moved.
- Test modes can be selected directly.
- To disengage the test mode, unplug the AC power cord from the AC outlet.

V. PARTS LIST



HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

Ref. No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20X03STL CMT
4	ZS-536488	BID20X08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

Ref. No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)
[B] : BEAB (England) [U] : U/T (Universal Area)
[C] : CSA (Canada)
[E] : CEE (Europe) [V] : VDE (Germany)
[J] : JPN (Japan) [Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

Δ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

Δ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	*BB-408757N4	MECHA TRAVERSE KSM-2101ABM
2	BM-733203M	MOTOR GEAR ASSY (MB)
3	BM-374198	MOTOR RF-370CA-15370
4	BM-408752M1	MOTOR RF-500TB-14415
5	*BO-394728J1	PICK UP KSS-210A
6	ED-394723J	D LED GL3HY44 YELLOW
7	ED-307572	D SILICON H 1SS131
8	*ED-511907	D SILICON 1N4002 100/1.0A
9	ED-408721J	D ZENER H HZS2B3
10	ED-408720J	D ZENER H HZS3C1
11	ED-408719J	D ZENER H HZS4C2
12	ED-403743J	D ZENER H HZS6B3
13	*ED-400171J	D ZENER H HZS6C2L
14	EH-408654J	COMP R RGL10T 223J
15	EH-404307J	COMP R RGL13X 223J
16	EH-408656J	COMP R RGL6X 472J
17	EI-330352	IC BA6109
18	EI-389264J	IC BA6209N
19	EI-390112J	IC CXA1081S
20	EI-390120J	IC CXA1082BS
21	EI-403497J	IC CXD1167Q
22	EI-387938J	IC HD74LS05P
23	EI-408657J1	IC M38002M4-126SP MXA1CD2
24	EI-393325J	IC M5218AP
25	EI-213390	IC NJM4558D
26	EI-408658J	IC PCM67U
27	EI-390149J	OSC CE CST4.23MGW 4.230MHZ
28	EI-381139N	OSC X'TAL HC-49/U 16934.400KHZ
29	ES-733205M	SW LEAF
30	ES-408754M	SW LEAF LSA-1119H
31	ES-408755M	SW LEAF LSA-2127E
32	ES-394427J	SW TACT SOR-133HS T05
33	ET-369248	TR DTA114YS
34	ET-360399	TR DTC114TS
35	ET-354365	TR DTC114YS
36	ET-354371	TR DTC124ES
37	ET-354364	TR DTC143TS
38	ET-353899	TR 2SA1317 S,T,U
39	ET-394919J	TR 2SB1329 Q,R T05
40	*ET-388338J	TR 2SB1425 S,E
41	*ET-397160J	TR 2SC3330 R,S,T,U,V
42	ET-379239	TR 2SD1380 Q,R
43	*ET-396072J	TR 2SD2159 V,W
44	MA-733202M	TURNTABLE CHASSIS ASSY (MB)

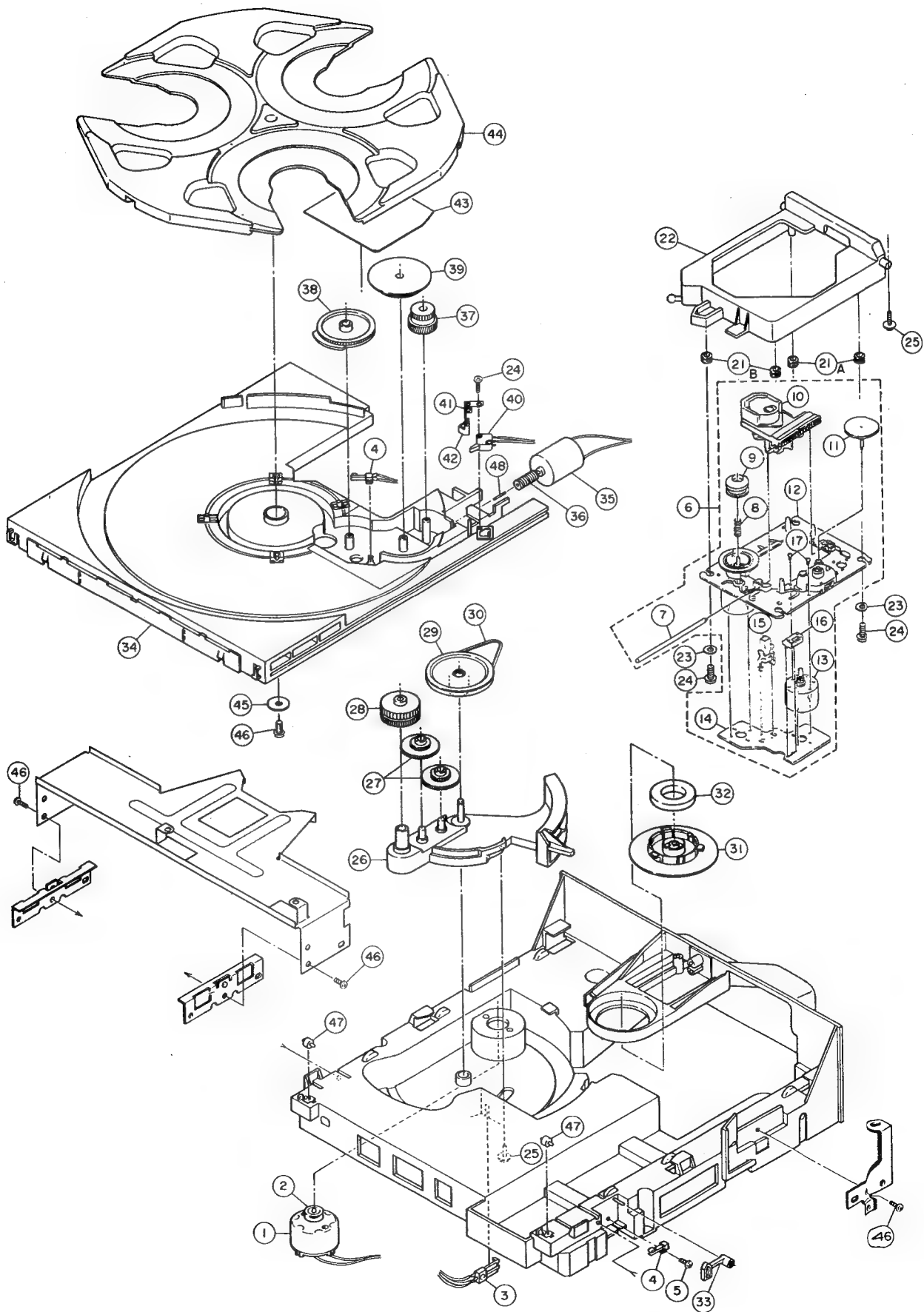
2. CD MECHANISM

Ref. No.	Part No.	Description
1	BM-408752M1	MOTOR RF-500TB-14415
2	MR-407764M	PULLEY (SG)
3	ES-408755M	SW LEAF LSA-2127E
4	ES-408754M	SW LEAF LSA-1119H
5	ZS-343082	PT BR26X08STL CMT
6	*BB-408757N4	MECHA TRAVERSE KSM-2101ABM
7	MS-733198M	SLIDE SHAFT
8	ZG-733199M	SP COMPRESSION
9	MZ-733200M	CENTER RING (LO)
10	*BO-394728J1	PICK UP KSS-210A
11	MZ-733201M	GEAR (A)
12	MA-733202M	TURNTABLE CHASSIS ASSY (MB)
13	BM-733203M	MOTOR GEAR ASSY (MB)
14	EA-733204M	MOTOR P.C BOARD (6P)
15	ES-733205M	SW LEAF
16	EJ-733206M	CONNECTOR 6P
17	ZS-477876	PAN20X03STL CMT
18	EW-408749M	WIRE ASSY YMC-02 PU1 8P
19	EW-408750M	WIRE ASSY YMC-02 PU2 8P
20	EW-408751M	WIRE ASSY YMC-02 TRAVERSE 6P
21A	MB-407748M1	INSULATOR (SG)
21B	MB-411992M1	INSULATOR (B) (SG)
22	MZ-407745M1	HOLDER TRAVERSE (SG)
23	ZW-409219M	PW23X100X100STL BZN (SG)
24	ZS-409503J	BT BID20X08STL BZN
25	ZS-407886J	BT PAN30X08STL BZN C100
26	BL-409250M	SG HOLDER GEAR PART
27	MZ-407734J1	GEAR LOADING (B)
28	MZ-407733M	GEAR LOADING (A) (SG)
29	MZ-407763J1	PULLEY GEAR
30	MB-407767M	BELT LOADING (SG)
31	MZ-410907J1	CLAMPER (B)
32	MZ-413089J	MAGNET FM30X17X5.2 4P
33	ML-407765J	LEVER SW LOADING
34	SC-407748M1	TRAY LOADING (SG)
35	BM-374198	MOTOR RF-370CA-15370
36	MZ-407740J	WORM TABLE
37	MZ-407739M	GEAR WORM WHEEL TABLE (SG)
38	MZ-407737M	GEAR TABLE (A) (SG)
39	MZ-407738M	GEAR TABLE (B) (SG)
40	ES-408758M	SW LEVER SSCTL-S-R
41	ZG-407741M	SP PLATE HOLDER DISK (SG)
42	ML-407742M2	LEVER SW (SG)
43	SZ-407750M	COVER GEAR (SG)
44	MZ-411049M	HOLDER DISK (B) (SG)
45	ZW-396336M	PW30X150X080STL CMT (SG)
46	ZS-394414J	BT BID30X08STL BZN
47	MR-407755M	ROLLER (SG)
48	MS-411215J	SHAFT WORM

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

CD MECHANISM



PARTS LIST

3. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1	BA-P2069T030C	ML PC (#) CD BLK CD-670/ML

PC (#) CD BLK CONSISTS OF FOLLOWING P.C BOARDS.

- MAIN P.C BOARD
- FRONT P.C BOARD

4. MAIN P.C BOARD

Ref. No.	Part No.	Description
D1	*ED-511907	D SILICON 1N4002 100/1.0A
D2	*ED-511907	D SILICON 1N4002 100/1.0A
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D5	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-511907	D SILICON 1N4002 100/1.0A
D7	*ED-400171J	D ZENER H HZS6C2L
D9	*ED-400171J	D ZENER H HZS6C2L
D11	ED-307572	D SILICON H 1SS131
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-403743J	D ZENER H HZS6B3
D15	ED-400171J	D ZENER H HZS6C2L
D16	ED-408721J	D ZENER H HZS2B3
D17	ED-408720J	D ZENER H HZS3C1
D18	ED-408719J	D ZENER H HZS4C2
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
IB1	EH-404307J	COMP R RGL13X 223J
IB2	EH-408654J	COMP R RGL10T 223J
IB3	EH-408656J	COMP R RGL6X 472J
IC1	EI-408657J1	IC M38002M4-126SP MXA1CD2
IC2	EI-390120J	IC CXA1082BS
IC3	EI-390112J	IC CXA1081S
IC4	EI-403497J	IC CXD1167Q
IC5	EI-408658J	IC PCM67U
IC6	EI-393325J	IC M5218AP
IC7	EI-213390	IC NJM4558D
IC8	EI-387938J	IC HD74LS05P
IC9	EI-389264J	IC BA6209N
IC10	EI-330352	IC BA6109
J4	EJ-408660J	SOCKET CFG1111-0161 BLUE 11P
R50	*ER-394882J	R OMF V T05 FS 1/2W 1R2J
R53	*ER-394882J	R OMF V T05 FS 1/2W 1R2J
TR1	*ET-397160J	TR 2SC3330 R,S,T,U,V
TR2	*ET-396072J	TR 2SD2159 V,W
TR3	*ET-396072J	TR 2SD2159 V,W
TR4	ET-396072J	TR 2SD2159 V,W
TR5	ET-353899	TR 2SA1317 S,T,U
TR6	*ET-388338J	TR 2SB1425 S,E
TR7	ET-353899	TR 2SA1317 S,T,U
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-360399	TR DTC114TS
TR10	ET-354365	TR DTC114YS
TR11	ET-397160J	TR 2SC3330 R,S,T,U,V
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V
TR13	ET-397160J	TR 2SC3330 R,S,T,U,V
TR14	ET-360399	TR DTC114TS
TR15	ET-360399	TR DTC114TS
TR16	ET-354371	TR DTC124ES
TR17	ET-354364	TR DTC143TS
TR18	ET-354364	TR DTC143TS
TR19	ET-369248	TR DTA114YS
TR21	ET-379239	TR 2SD1380 Q,R
TR22	ET-388338J	TR 2SB1425 S,E
TR23	ET-379239	TR 2SD1380 Q,R
TR24	ET-394919J	TR 2SB1329 Q,R T05
TR25	ET-396072J	TR 2SD2159 V,W
TR26	ET-388338J	TR 2SB1425 S,E
TR27	ET-396072J	TR 2SD2159 V,W
TR28	ET-388338J	TR 2SB1425 S,E
TR29	ET-354365	TR DTC114YS
TR30	ET-354365	TR DTC114YS
TR31	ET-354365	TR DTC114YS
VR1	EV-404260J	R S-FIX H RH0681C 0.30W 102
VR2	EV-358829	R S-FIX H RH0615C 0.10W 223
VR3	EV-358829	R S-FIX H RH0615C 0.10W 223
VR4	EV-358829	R S-FIX H RH0615C 0.10W 223

Ref. No.	Part No.	Description
VR5	EV-356576	R S-FIX H RH0615C 0.10W 472
X1	EI-381139N	OSC XTAL HC-49/U 16934.400KHZ
X2	EI-390149J	OSC CE CST4.23MGW 4.230MHZ

5. FRONT P.C BOARD

Ref. No.	Part No.	Description
D201	ED-394723J	D LED GL3HY44 YELLOW
D202	ED-394723J	D LED GL3HY44 YELLOW
D203	ED-394723J	D LED GL3HY44 YELLOW
TS201	ES-394427J	SW TACT SOR-133HS T05
TS202	ES-394427J	SW TACT SOR-133HS T05
TS203	ES-394427J	SW TACT SOR-133HS T05
TS204	ES-394427J	SW TACT SOR-133HS T05
TS205	ES-394427J	SW TACT SOR-133HS T05
TS206	ES-394427J	SW TACT SOR-133HS T05
TS207	ES-394427J	SW TACT SOR-133HS T05
TS208	ES-394427J	SW TACT SOR-133HS T05
TS209	ES-394427J	SW TACT SOR-133HS T05
TS210	ES-394427J	SW TACT SOR-133HS T05

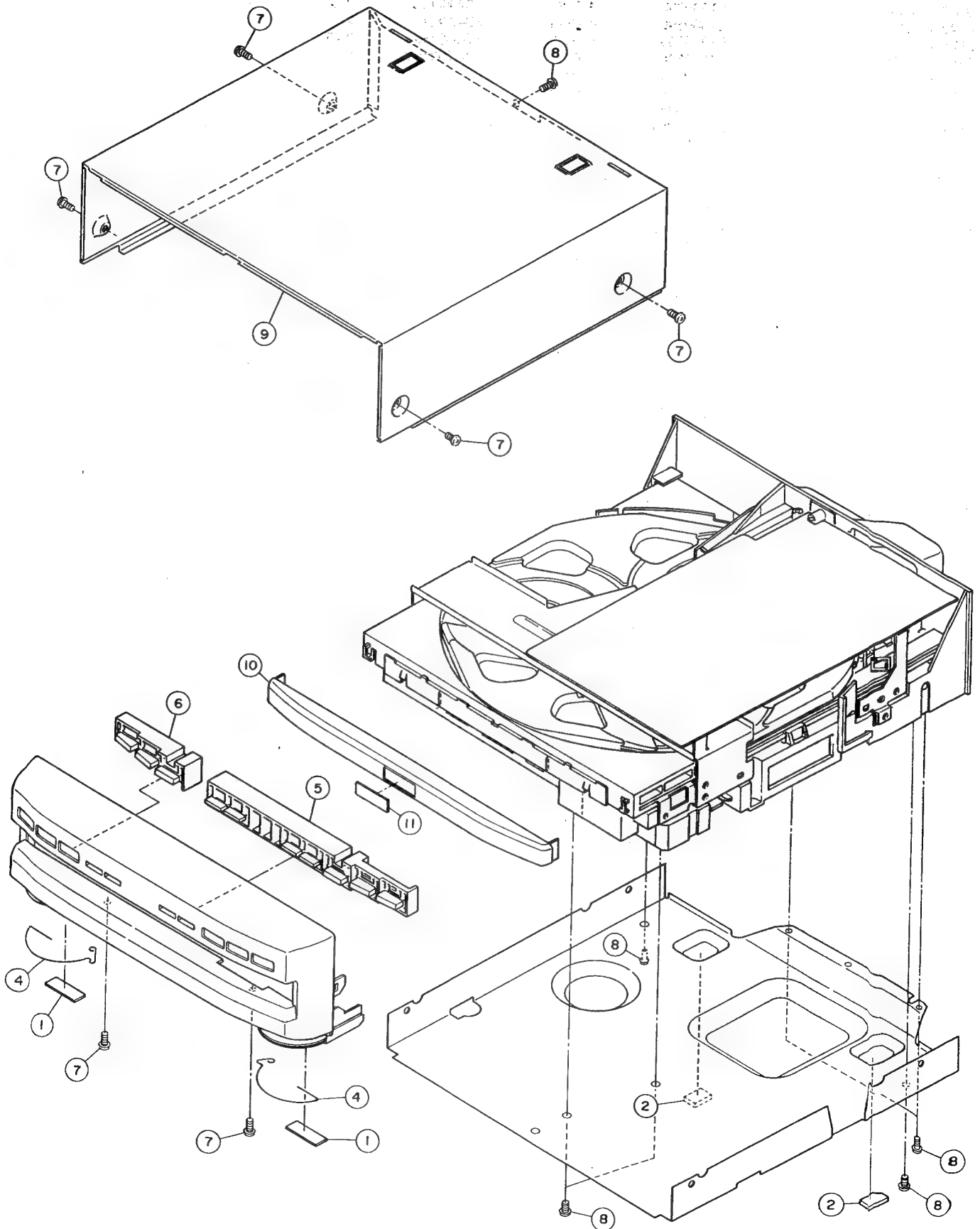
6. FINAL ASSEMBLY

Ref. No.	Part No.	Description
1	SA-394136M	CUSHION FOOT (SG)
2	SA-407840M	CUSHION FOOT REAR (SG)
3	SP-414266M	PANEL FRONT CD-670 (SG)
4	SZ-414249M	RING FOOT (SG)
5	SB-414267M	BUTTON OP (SG)
6	SB-414269J	BUTTON OPEN
7	ZS-394414J	BT BID30X08STL BZN
8	ZS-394412J	BT BID30X08STL BZN PROJECTION
9	SP-408022M	COVER UPPER (SG)
10	SP-414270M	COVER TRAY (SG)
11	SM-414313J	NAME PLATE 3D

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

FINAL ASSEMBLY



INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
BAP2069T030C	3-1	ET354371	4-TR16	ZS407886J	2-25		
BB408757N4	2-6	ET360399	4-TR9	ZS409503J	2-24		
BL409250M	2-26	ET360399	4-TR14	ZS477876	2-17		
BM374198	2-35	ET360399	4-TR15	ZW396336M	2-45		
BM408752M1	2-1	ET369248	4-TR19	ZW409219M	2-23		
BM733203M	2-13	ET379239	4-TR21				
BO394728J1	2-10	ET379239	4-TR23				
EA733204M	2-14	ET388338J	4-TR6				
ED307572	4-D11	ET388338J	4-TR22				
ED307572	4-D12	ET388338J	4-TR26				
ED307572	4-D13	ET388338J	4-TR28				
ED307572	4-D19	ET394919J	4-TR24				
ED307572	4-D20	ET396072J	4-TR2				
ED394723J	5-D201	ET396072J	4-TR3				
ED394723J	5-D202	ET396072J	4-TR4				
ED394723J	5-D203	ET396072J	4-TR25				
ED400171J	4-D7	ET396072J	4-TR27				
ED400171J	4-D9	ET397160J	4-TR1				
ED400171J	4-D15	ET397160J	4-TR8				
ED403743J	4-D14	ET397160J	4-TR11				
ED408719J	4-D18	ET397160J	4-TR12				
ED408720J	4-D17	ET397160J	4-TR13				
ED408721J	4-D16	EV356576	4-VR5				
ED511907	4-D1	EV358829	4-VR2				
ED511907	4-D2	EV358829	4-VR3				
ED511907	4-D3	EV358829	4-VR4				
ED511907	4-D4	EV404260J	4-VR1				
ED511907	4-D5	EW408749M	2-18				
ED511907	4-D6	EW408750M	2-19				
EH404307J	4-IB1	EW408751M	2-20				
EH408654J	4-IB2	MA733202M	2-12				
EH408656J	4-IB3	MB407746M1	2-21A				
EI213390	4-IC7	MB407767M	2-30				
EI330352	4-IC10	MB411992M1	2-21B				
EI381139N	4-X1	ML407742M2	2-42				
EI387938J	4-IC8	ML407765J	2-33				
EI389264J	4-IC9	MR407755M	2-47				
EI390112J	4-IC3	MR407764M	2-2				
EI390120J	4-IC2	MS411215J	2-48				
EI390149J	4-X2	MS733198M	2-7				
EI393325J	4-IC6	MZ407733M	2-28				
EI403497J	4-IC4	MZ407734J1	2-27				
EI408657J1	4-IC1	MZ407737M	2-38				
EI408658J	4-IC5	MZ407738M	2-39				
EJ408660J	4-J4	MZ407739M	2-37				
EJ733206M	2-16	MZ407740J	2-36				
ER394882J	4-R50	MZ407745M1	2-22				
ER394882J	4-R53	MZ407763J1	2-29				
ES394427J	5-TS201	MZ410907J1	2-31				
ES394427J	5-TS202	MZ411049M	2-44				
ES394427J	5-TS203	MZ413089J	2-32				
ES394427J	5-TS204	MZ733200M	2-9				
ES394427J	5-TS205	MZ733201M	2-11				
ES394427J	5-TS206	SA394136M	6-1				
ES394427J	5-TS207	SA407840M	6-2				
ES394427J	5-TS208	SB414267M	6-5				
ES394427J	5-TS209	SB414269J	6-6				
ES394427J	5-TS210	SC407748M1	2-34				
ES408754M	2-4	SM414313J	6-11				
ES408755M	2-3	SP408022M	6-9				
ES408758M	2-40	SP414266M	6-3				
ES733205M	2-15	SP414270M	6-10				
ET353899	4-TR5	SZ407750M	2-43				
ET353899	4-TR7	SZ414249M	6-4				
ET354364	4-TR17	ZG407741M	2-41				
ET354364	4-TR18	ZG733199M	2-8				
ET354365	4-TR10	ZS343082	2-5				
ET354365	4-TR29	ZS394412J	6-8				
ET354365	4-TR30	ZS394414J	2-46				
ET354365	4-TR31	ZS394414J	6-7				

ABBREVIATIONS (COMPACT DISC)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A-D	Analog to Digital (Convertor)	Mb	Mega Bits
ADC	Analog to Digital (Convertor)	MDA	Mortor Drive Amplifier
BCD	Binary Code Decimal	MFM	Modified Frequency Modulation
BPI	Bits per Inch	MM	Mono-stable Multivibrator
CD	Compact Disc	M ² FM	Modified Modified Frequency Modulation
CIRC	Cross Interleaving & Reed Solomon Coding	MOD2	Modulo 2 (Addition)
CLV	Constant Linear Velocity	MP	Microprocessor
CP	Clock Pulses	MSB	Most Significant Bit
CRCC	Cyclic Redundancy Check Codes	NA	Numerical Aperture
D Level	Decision Level	NRZ	Non Return to Zero
D-A	Digital to Analog (Convertor)	NRZ-1	Non Return to Zero Inverted
DAC	Digital to Analog (Convertor)	P	Parity Data
DAD	Digital Audio Disc	PAM	Pulse Amplitude Modulation
DEM	Dynamic Element Matching	PCM	Pulse Code Modulation
DPD	Differential Phase Detection	PD	Phase Detector
DSV	Digital Sum Value	PE	Phase Encode
EFM	Eight to fourteen Modulation	PLL	Phase Locked Loop
EX-OR	EXclusive OR	PNM	Pulse Number Modulation
FCI	Flux Changes per Inch	PPM	Pulse Phase Modulation
FIR	Finite Impulse Response	PWM	Pulse Width Modulation
FP	Front Pulse	Q	Parity Data
FPG	Front Pulse Gate	R, R ₁ , R ₂ , etc.	Data for Right Channel
f	Frequency of Sampling	RAM	Random Access Memory
GF	Galois Field	RPG	Rear Pulse Gate
H & V (Parity)	Horizontal & Vertical	SCOOP	Self Coupled Optical Pick-up
IIR	Infinite Impulse Response	S & H	Sample & Hold
kb	Kilo Bits	S/N	Signal to Noise Ratio
L, L ₁ , L ₂ , etc.	Data for Left Channel	SSG	Standard Signal Generator
LPF	Low Pass Filter	SYSCON	SYStem CONtrol
LSB	Least Significant Bit		

AKAI

MODEL MX-570
(TP-570, AX-570, CD-670)

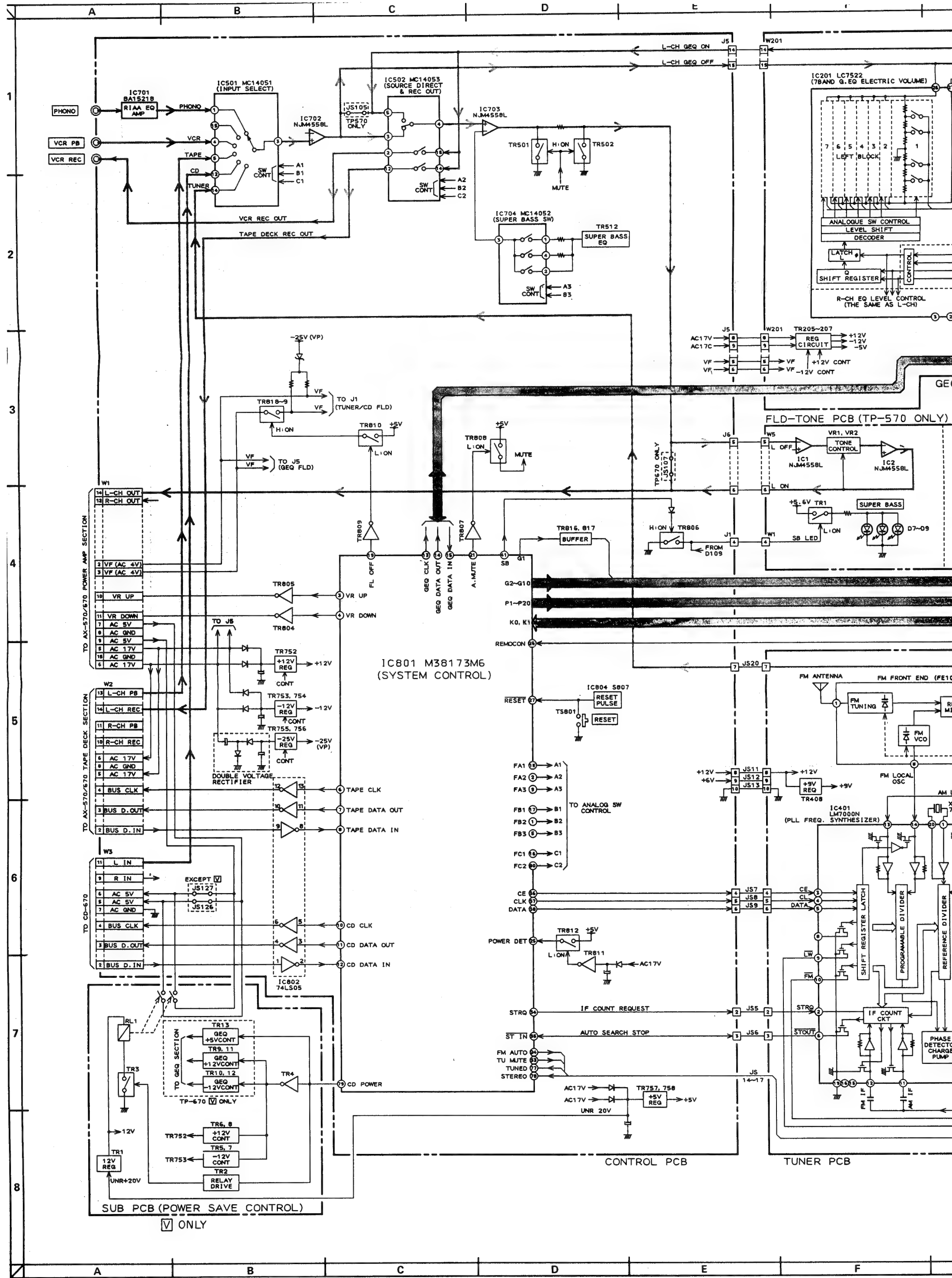
MODEL MX-670
(TP-670, AX-670, CD-670)

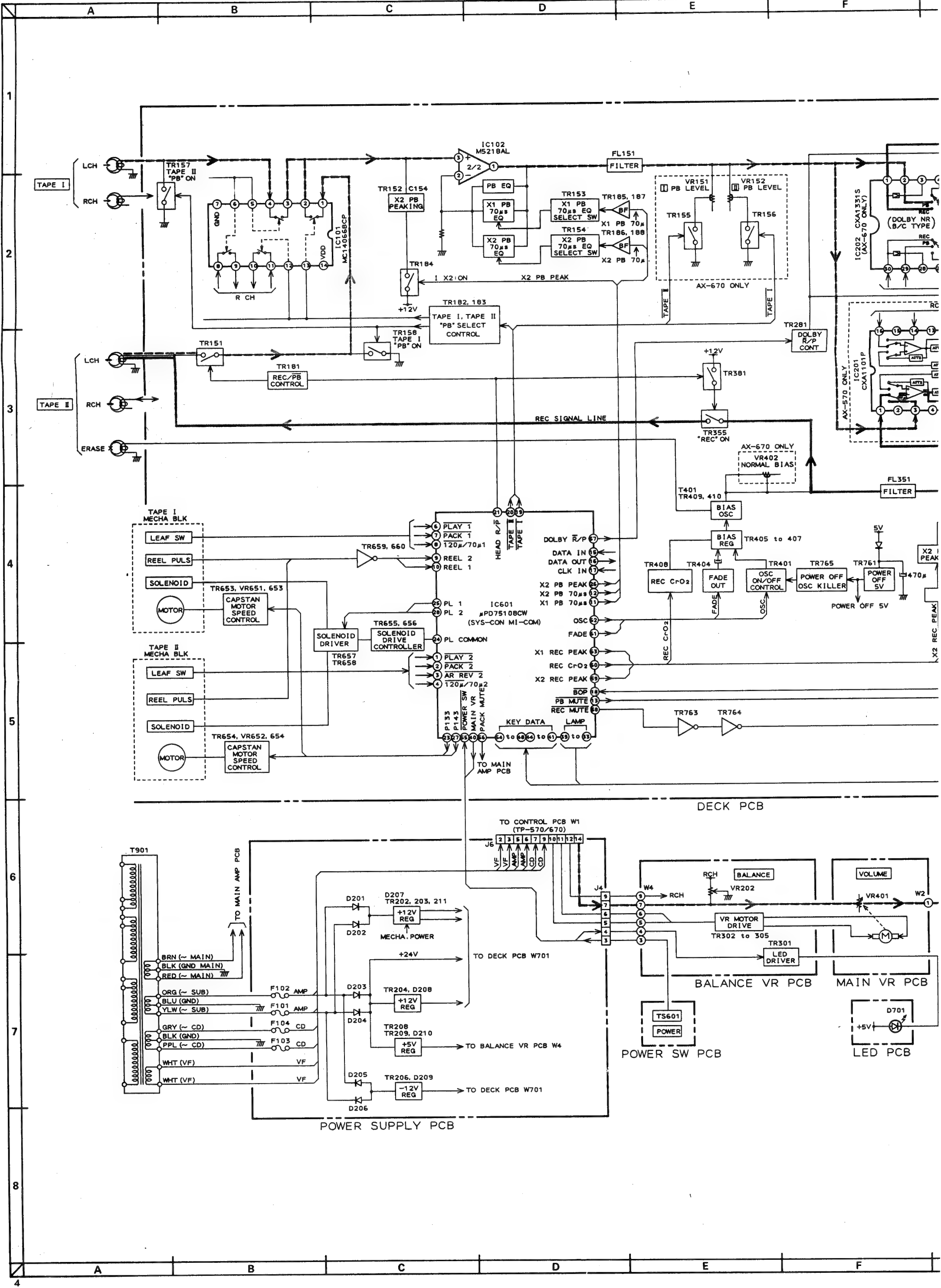
SCHEMATIC DIAGRAMS AND PC BOARDS

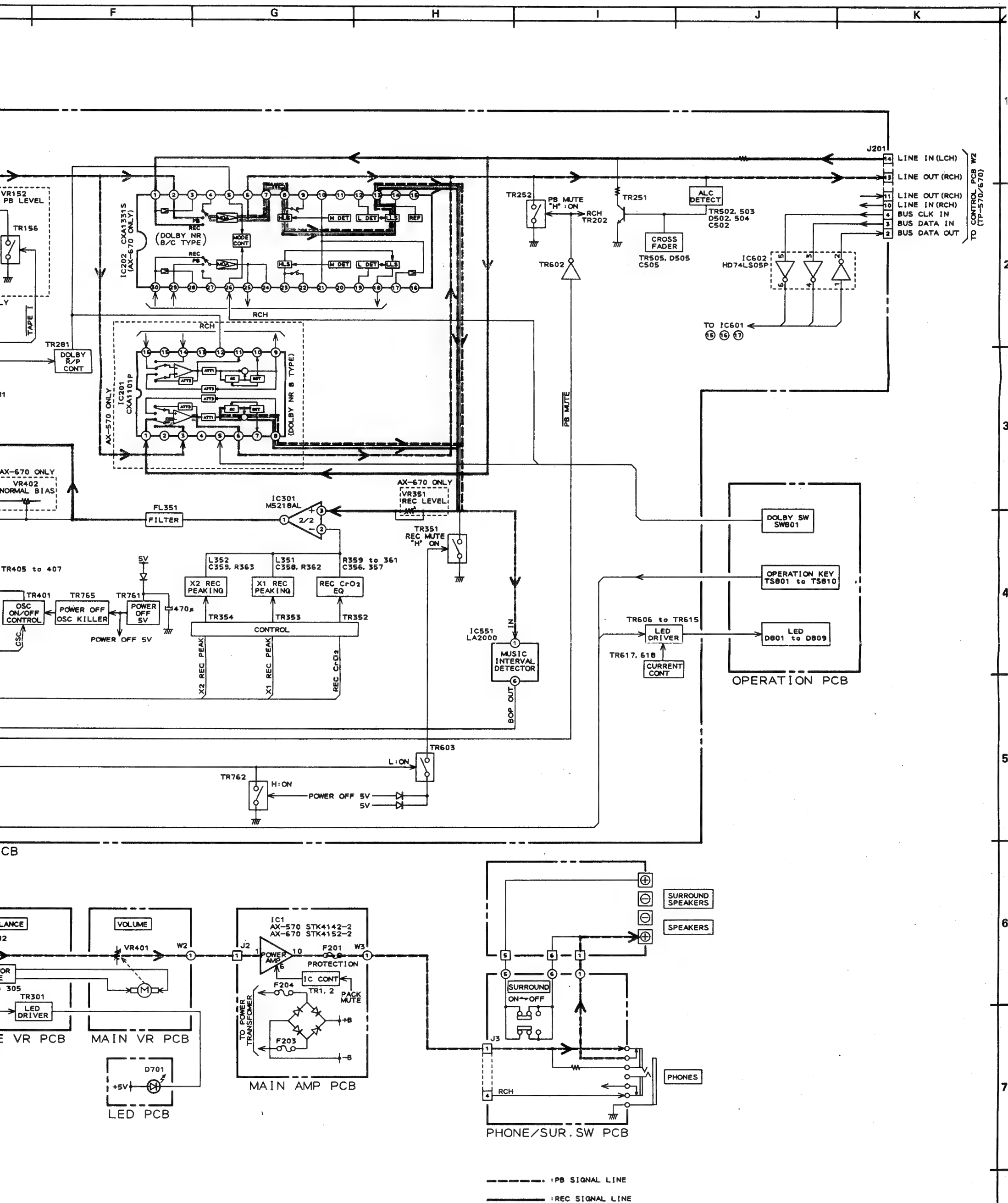
TABLE OF CONTENTS

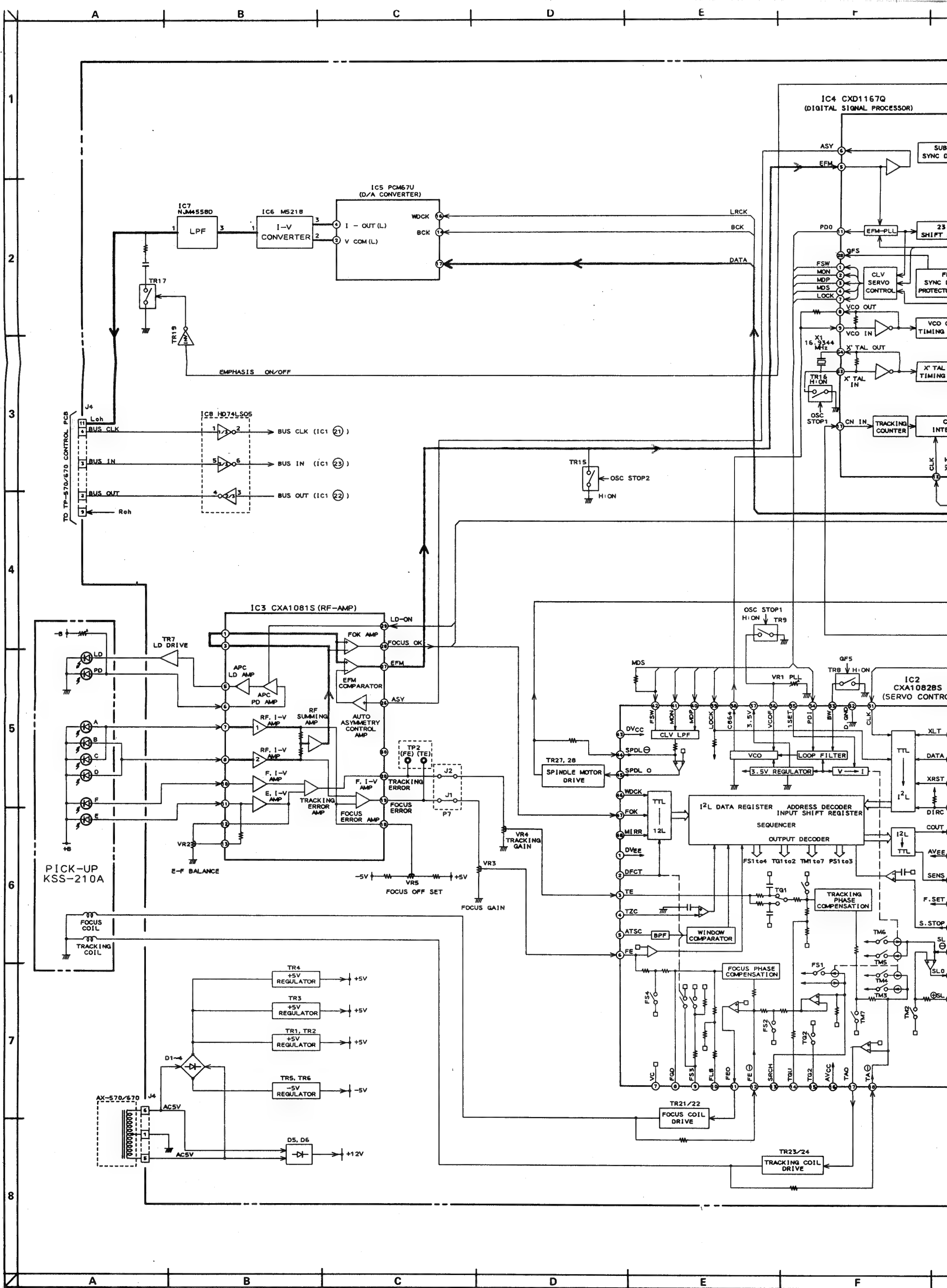
I. BLOCK DIAGRAMS	
1. TP-570, 670	3
2. AX-570, 670	4
3. CD-670	5
II. SCHEMATIC DIAGRAMS AND PC BOARDS	
1. TP-570, TP-670 CONNECTION DIAGRAM	6
2. TP-570, 670 SUB	7
3. TP-570, 670 CONTROL	8
4. TP-570, 670 TUNER	10
5. TP-570 FLD-TONE	13
6. TP-670 FLD & GEQ	14
7. AX-570, 670 CONNECTION DIAGRAM	15
8. AX-570 DECK & OPERATION	17
9. AX-670 DECK & OPERATION	18
10. AX-570, 670 MAIN	20
11. CD-670 MAIN & FRONT	22
III. INFORMATION OF ICs	24

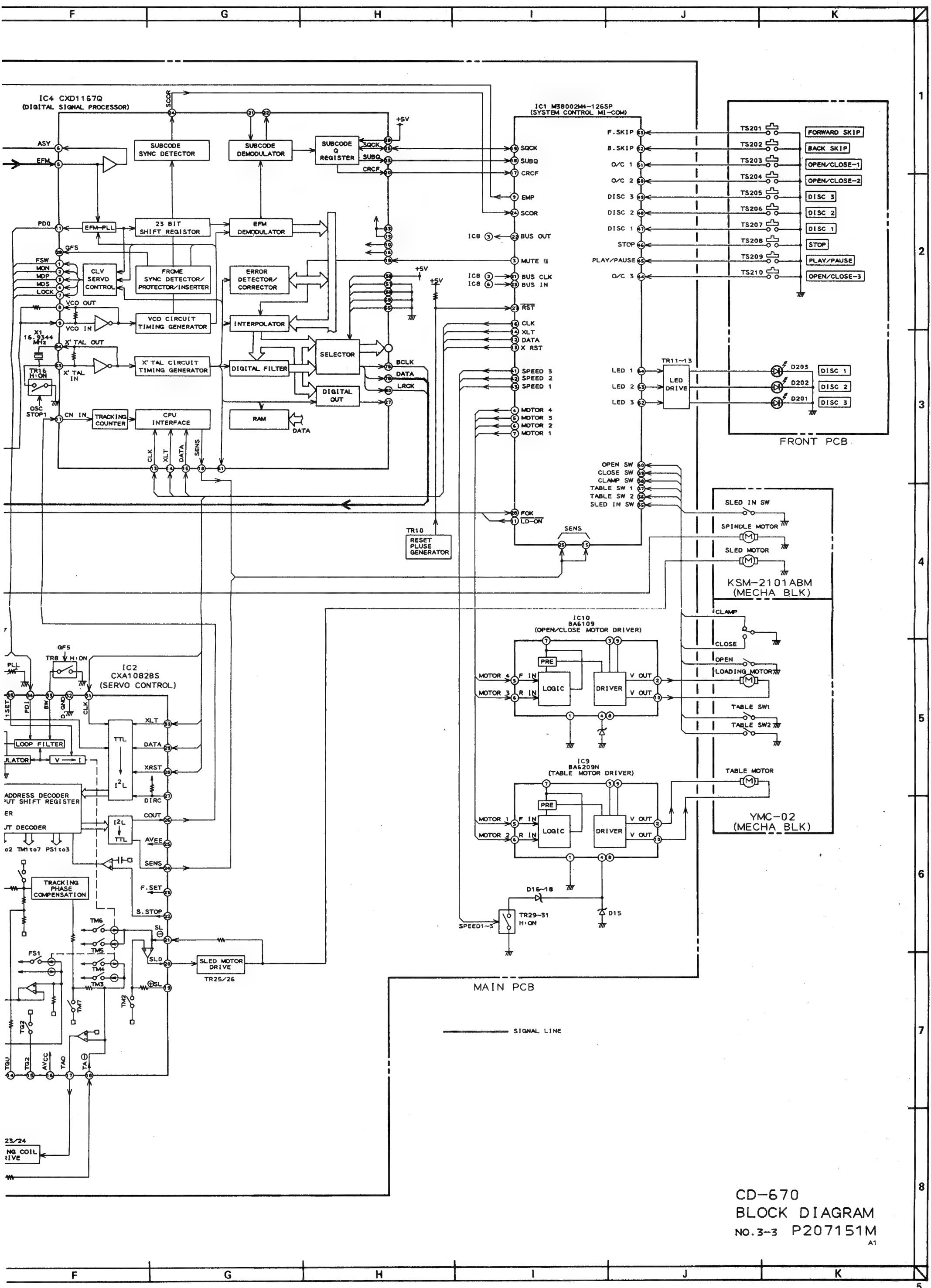
Use these schematic diagrams and PC boards together with the provided service manual.



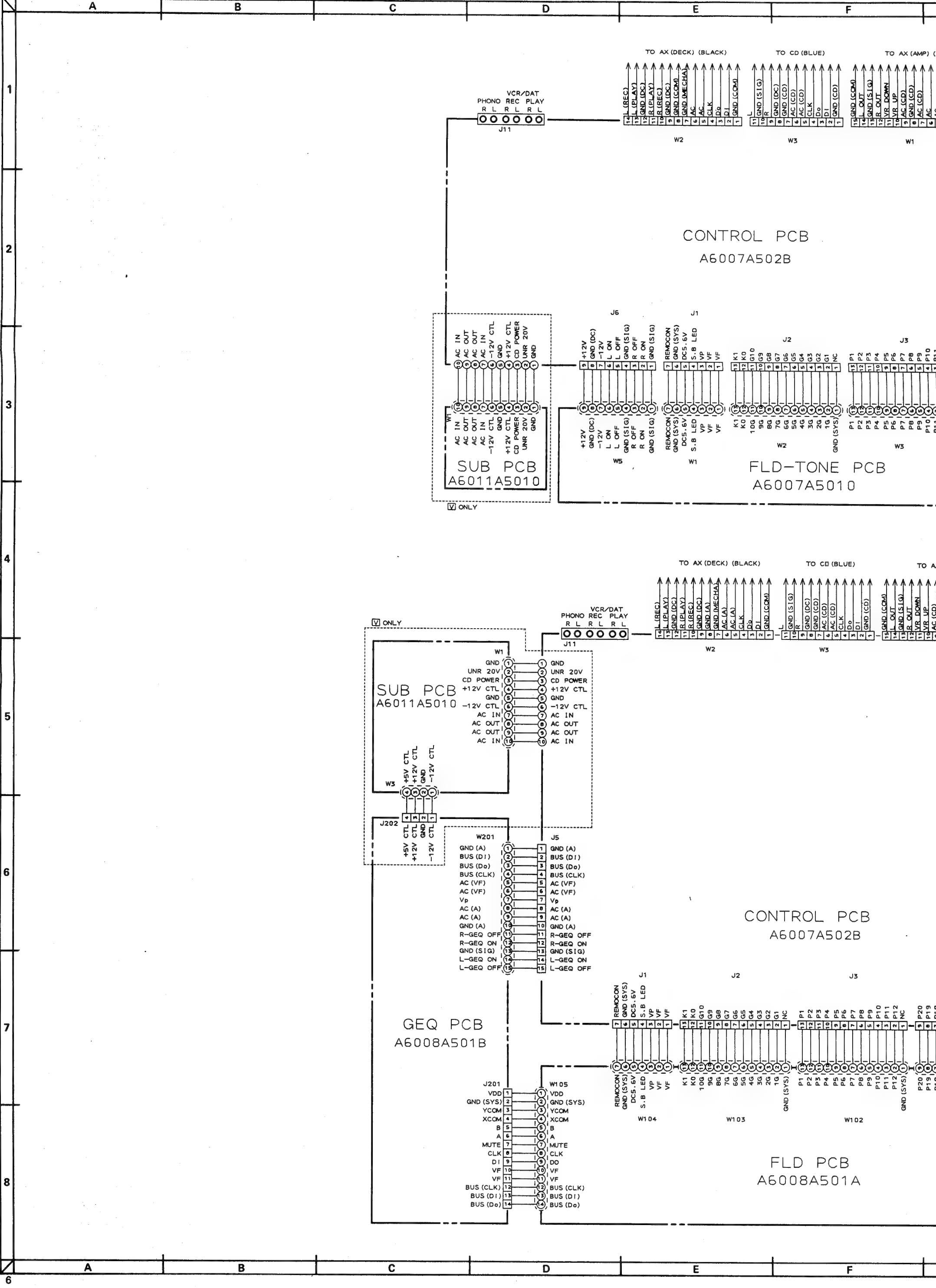








CD-670
BLOCK DIAGRAM
NO.3-3 P207151M
A1



CONTROL PCB
A6007A502B

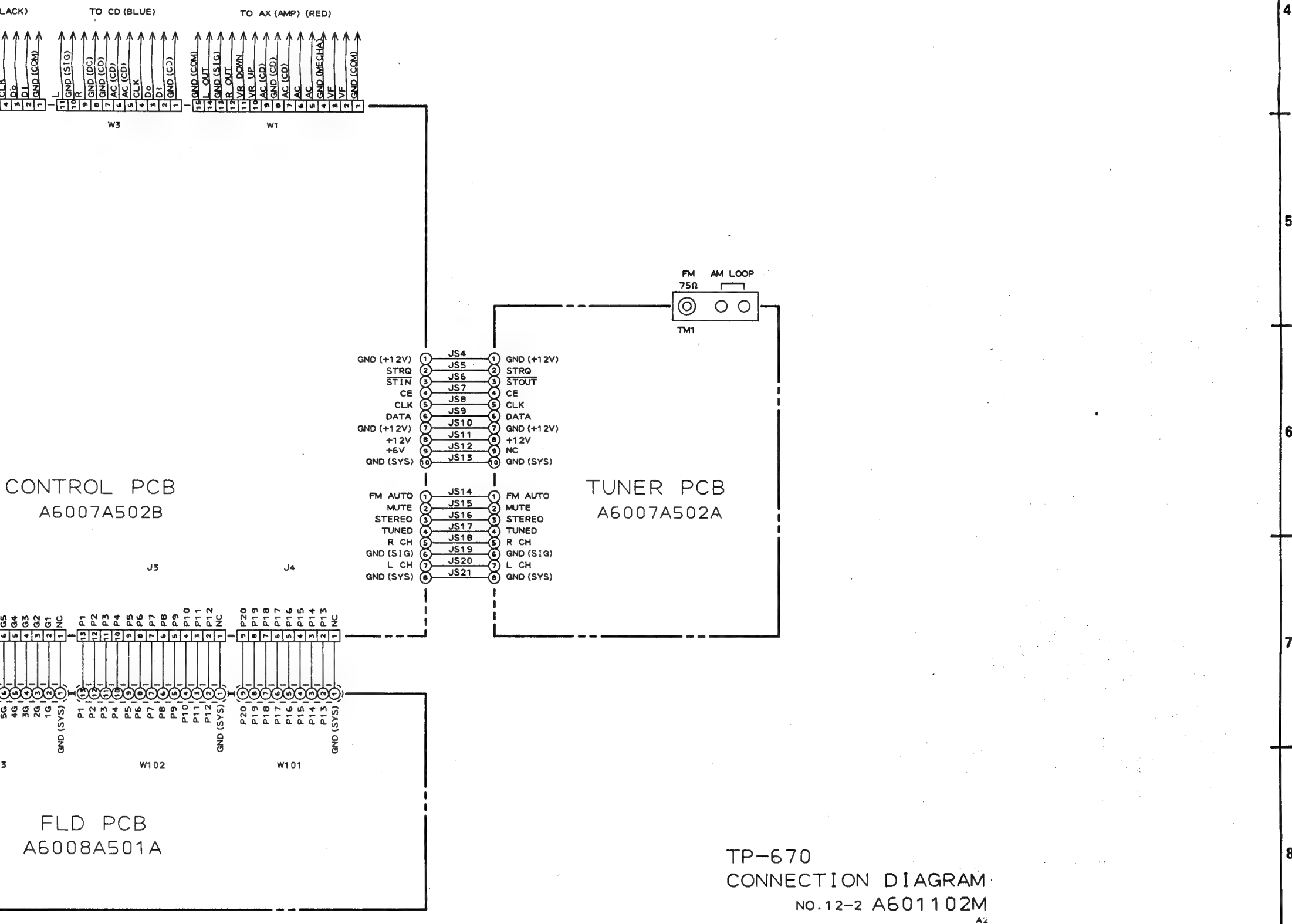
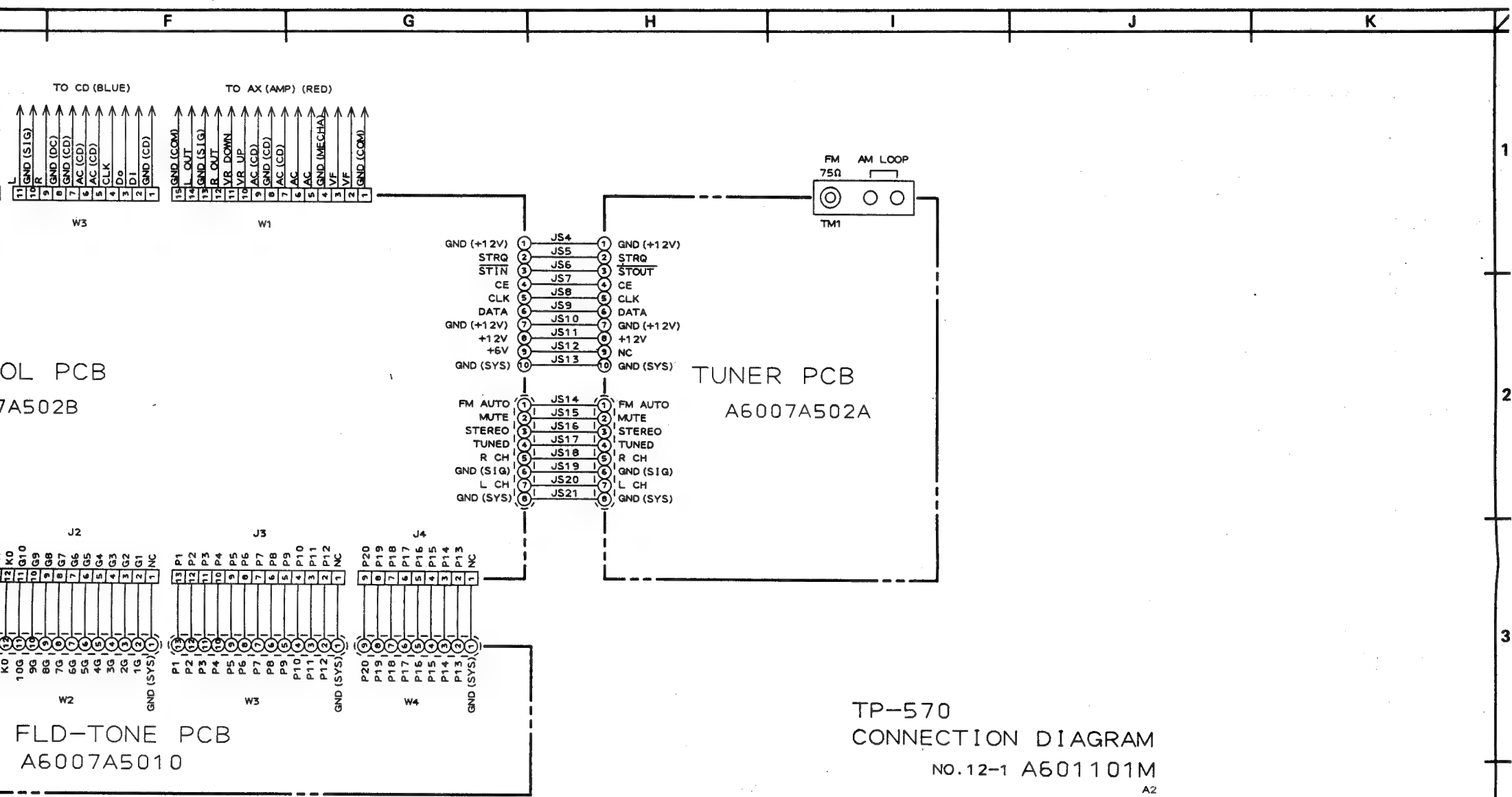
SUB PCB
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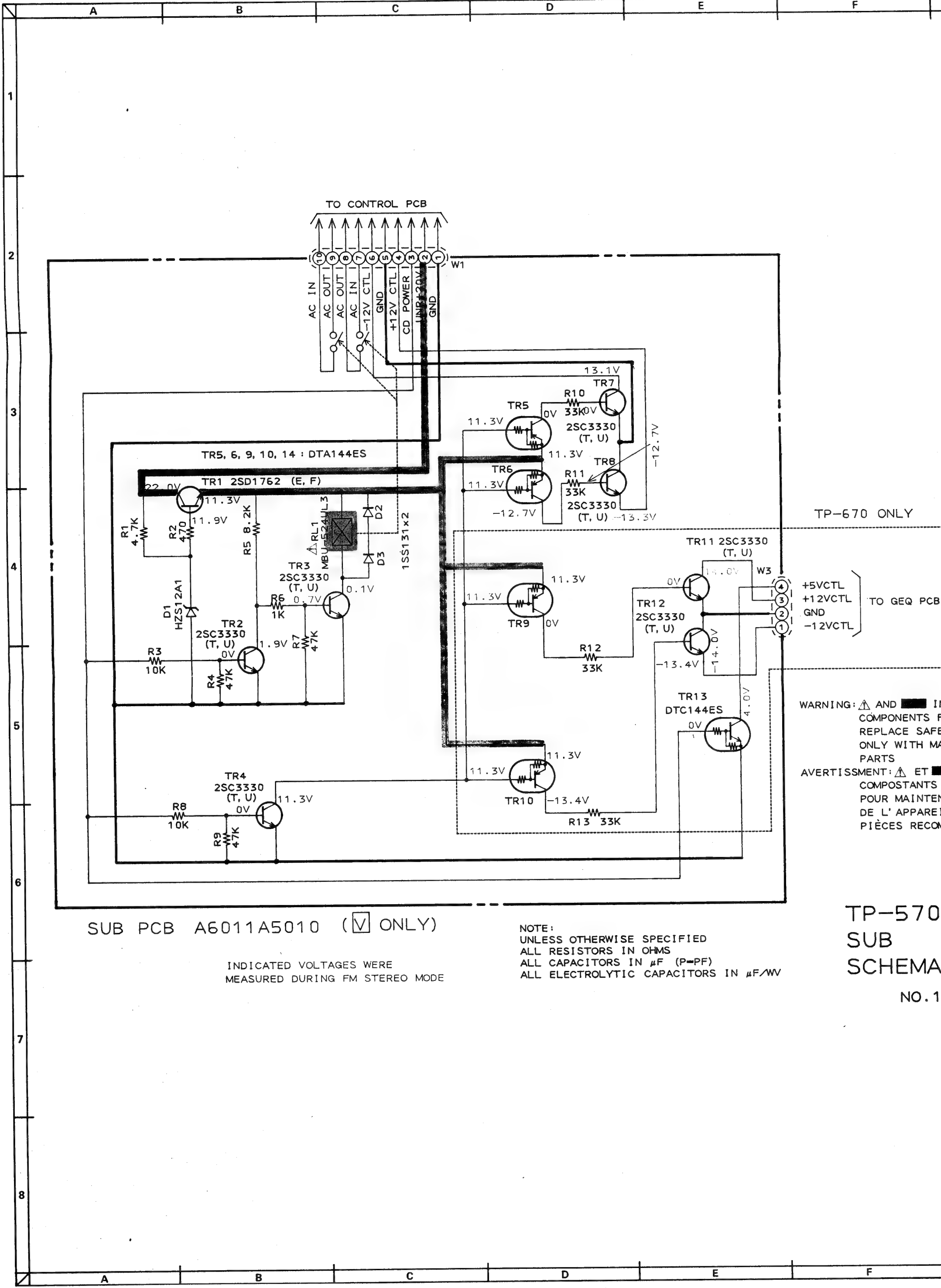
FLD-TONE PCB
A6007A5010

GEQ PCB
A6008A501B

CONTROL PCB
A6007A502B

FLD PCB
A6008A501A





SUB PCB A6011A5010 (V ONLY)

INDICATED VOLTAGES WERE MEASURED DURING FM STEREO MODE



NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN $\mu F/WV$



TP-570,
SUB
SCHEMA
NO.1:

TP-670 ONLY

+5VCTL
+12VCTL
GND
-12VCTL

TO GEQ PCB J202

WARNING:  AND  INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

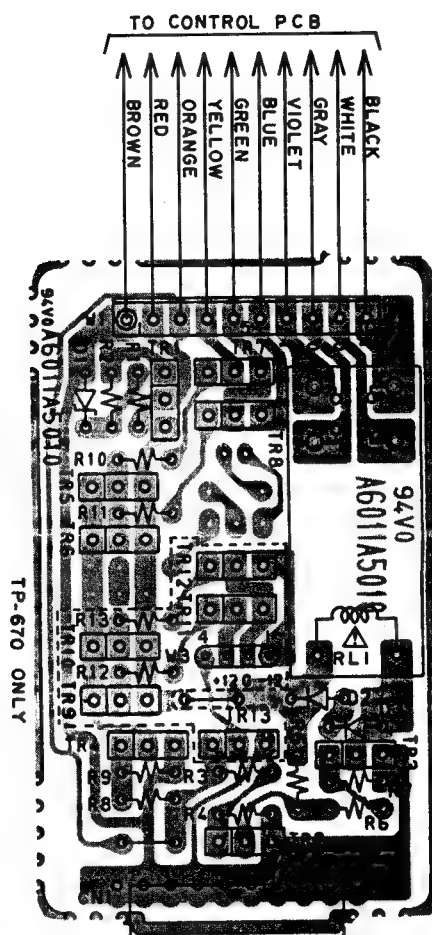
AVERTISSEMENT:  ET  , ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

TP-570/670

SUB

SCHEMATIC DIAGRAM

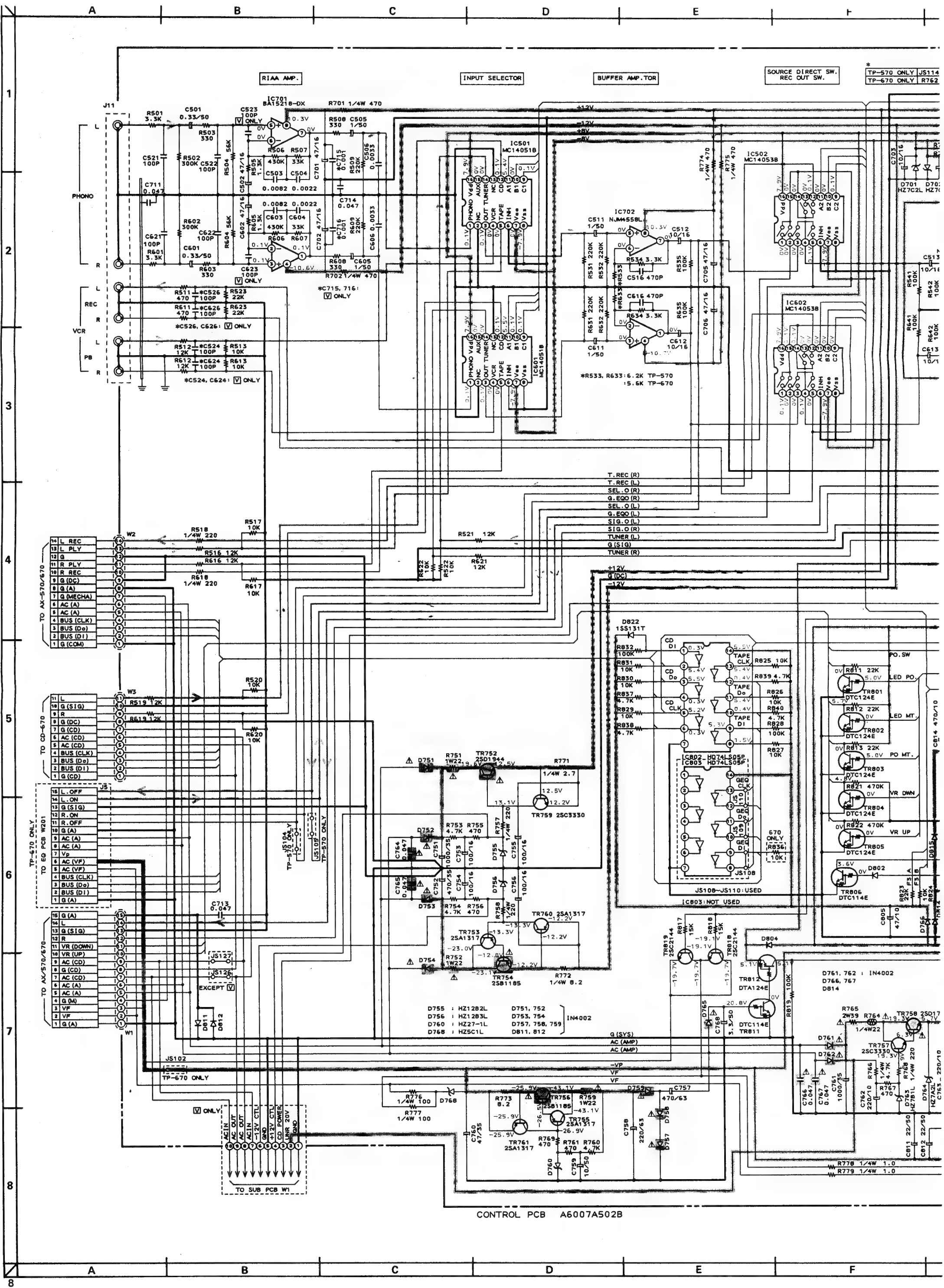
NO.12-3 A601103M
A3

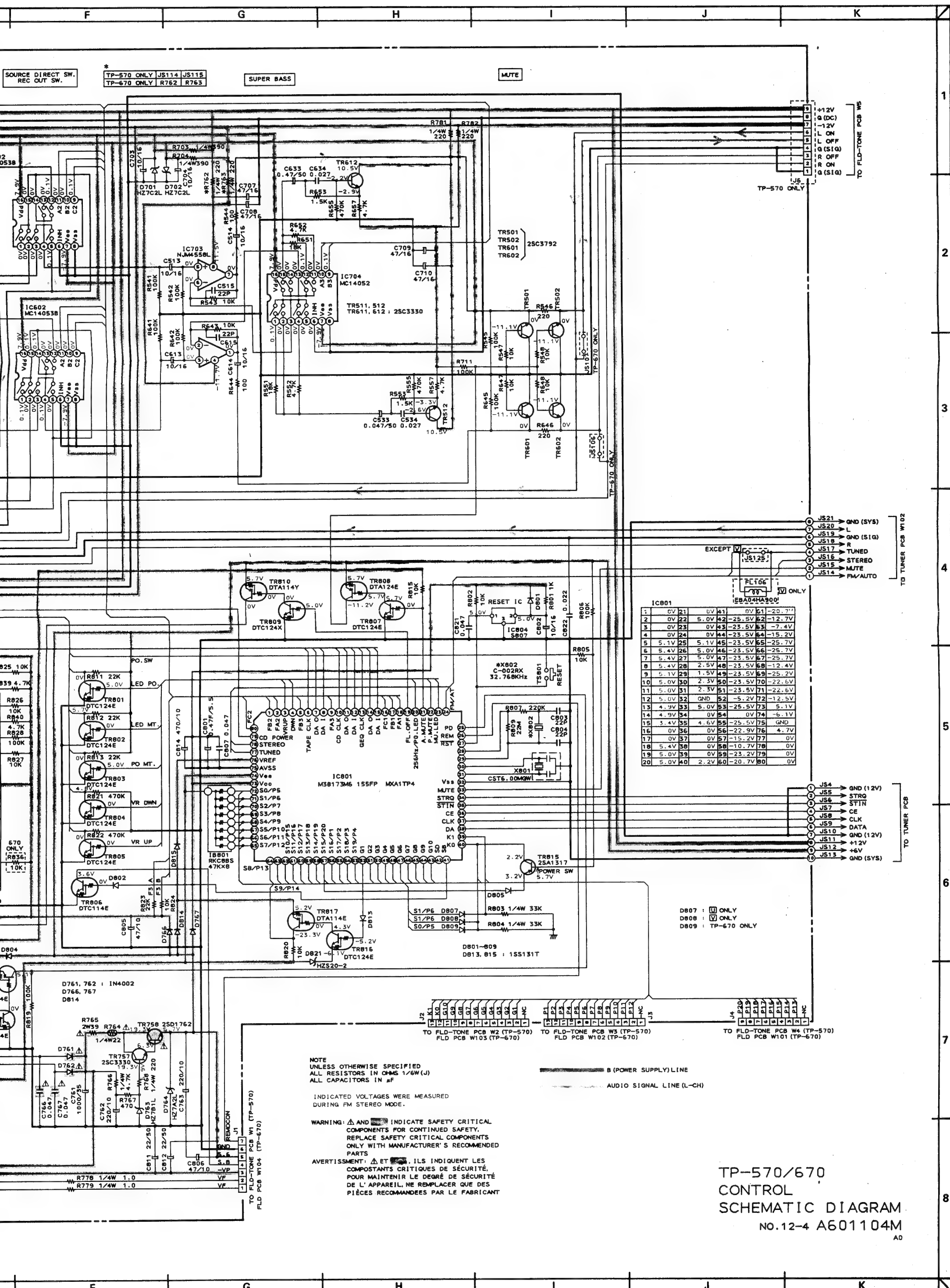


SUB PCB A6011A5010 (V ONLY)

WARNING:  INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT:  IL INDIQUE LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT





NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN nF

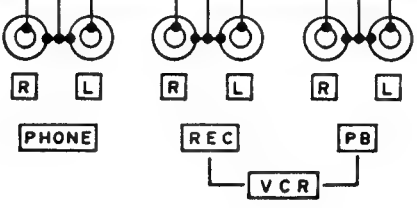
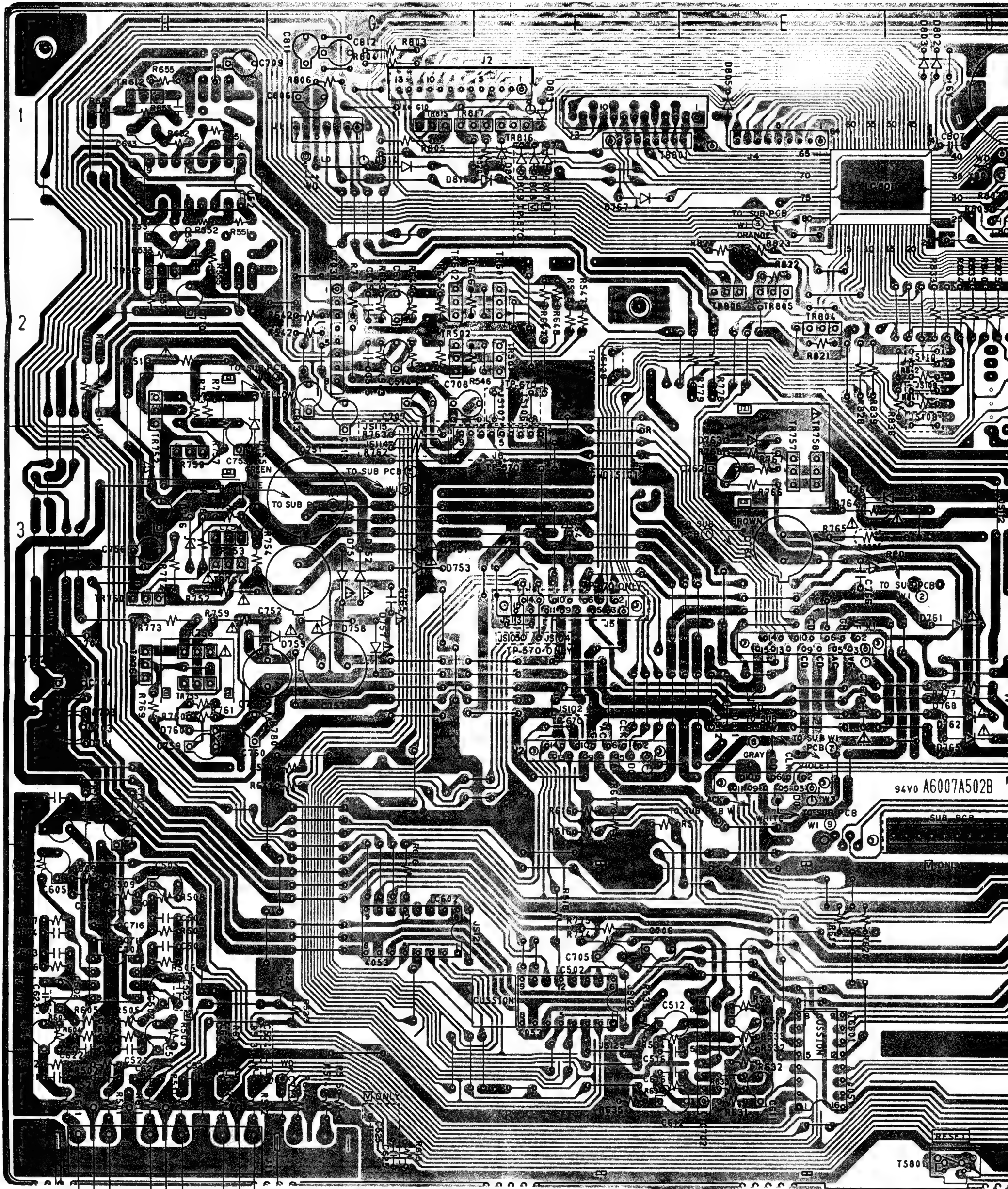
INDICATED VOLTAGES WERE MEASURED
DURING FM STEREO MODE.

WARNING: AND INDICATE SAFETY CRITICAL
COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOMMENDED
PARTS

AVERTISSEMENT: ET ILS INDIQUENT LES
COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ
DE L'APPAREIL, NE REMPLACER QUE DES
PIÈCES RECOMMANDÉES PAR LE FABRICANT

B (POWER SUPPLY) LINE
AUDIO SIGNAL LINE (L-CH)

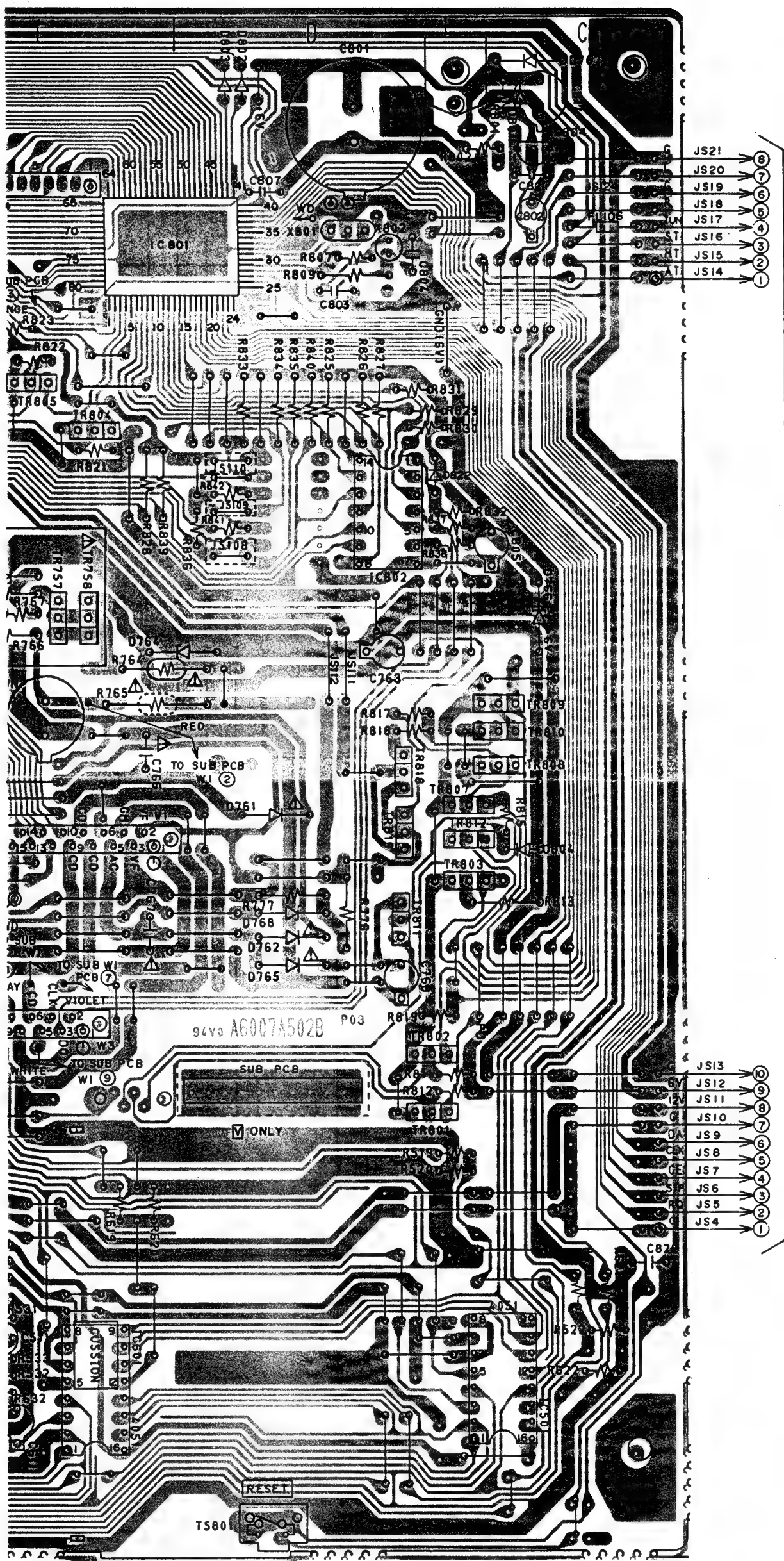
TP-570/670
CONTROL
SCHEMATIC DIAGRAM
NO.12-4 A601104M
A0



CONTROL PCB A6007A502BJ2

NOTE : PARTS DIFFER
REFER TO SCHEMATIC
PARTS INFORMATION

WARNING: Δ INDICATES SAFETY
REPLACE SAFETY COMPONENTS
RECOMMENDED
AVERTISSEMENT: Δ IL INDICATE
POUR MAINTENIR LA SÉCURITÉ
NE REMPLACEZ PAS



PRINCIPAL PARTS LOCATION

ICs

IC501	.....	C5,6
IC502	.....	F5
IC601	.....	E5,6
IC602	.....	G5
IC701	.....	H5
IC702	.....	E5,6
IC703	.....	G2
IC704	.....	H1
IC801	.....	D,E1
IC802	.....	D2,3
IC804	.....	C1

TRANSISTORS

TR501	.....	F2
TR502	.....	G2
TR512	.....	H2
TR601	.....	F2
TR602	.....	G2
TR612	.....	H1
TR752	.....	H2
TR753	.....	H3
TR754	.....	H3
TR755	.....	H4
TR756	.....	H4
TR757	.....	E3
TR758	.....	E3
TR759	.....	H3
TR760	.....	H3
TR761	.....	H4
TR801	.....	D5
TR802	.....	D4
TR803	.....	C4
TR804	.....	E2
TR805	.....	E2
TR806	.....	E2
TR807	.....	C3
TR808	.....	C3
TR809	.....	C3
TR810	.....	C3
TR811	.....	D4
TR812	.....	C4
TR815	.....	G1
TR816	.....	F1
TR817	.....	F,G1
TR818	.....	D3
TR819	.....	D3,4

CONNECTORS

J1	.....	G1
J2	.....	F,G1
J3	.....	F1
J4	.....	E1
J5	.....	F3
J6	.....	F,G3
J11	.....	G,H6

WIRES

W1	.....	E3,4
W2	.....	F4
W3	.....	E4


502BJ2

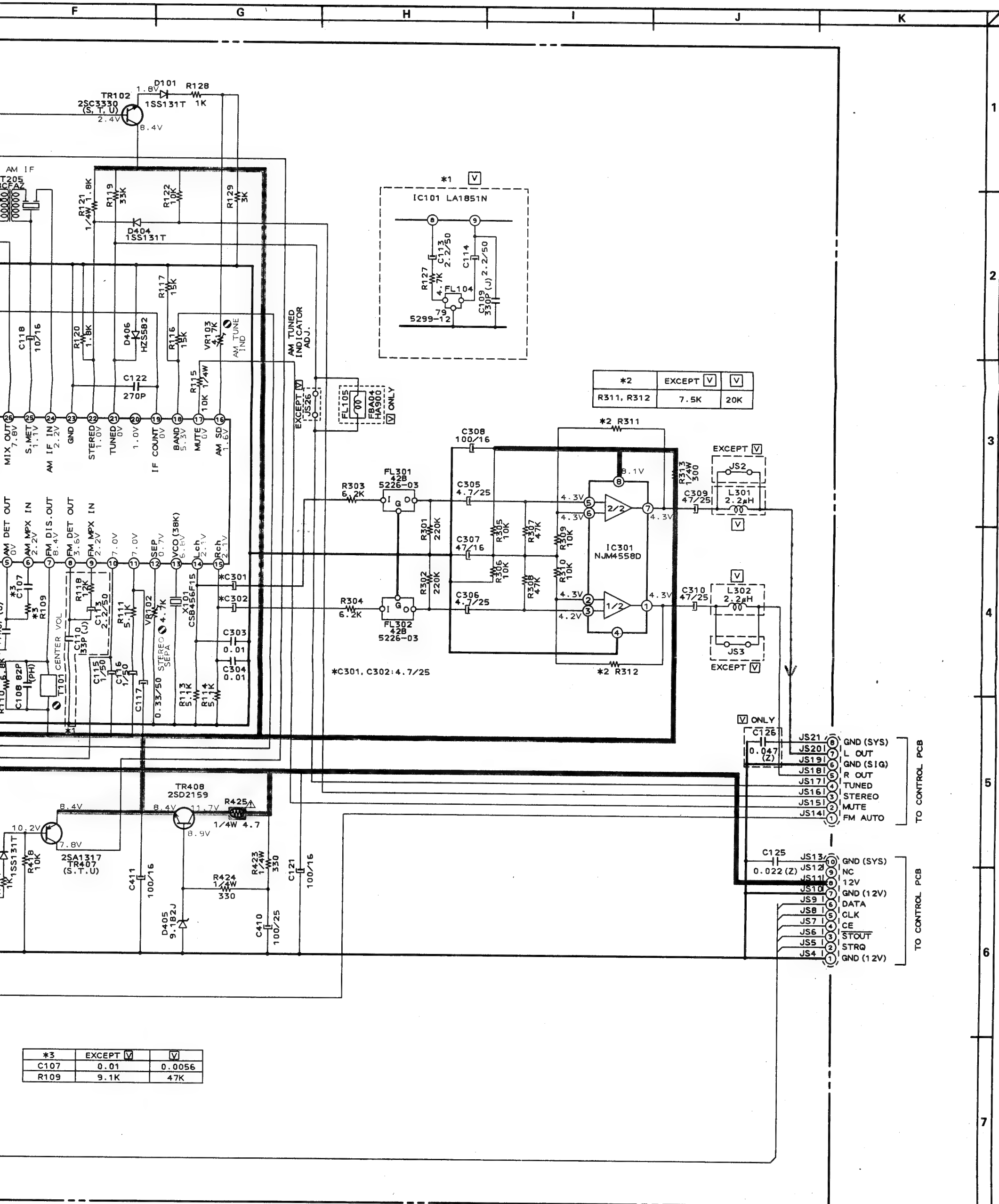
NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.

WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT



AVERTISSEMENT: Δ ET , ILS INDIQUENT COMPOSTANTS CRITIQUES DE SÉCURITÉ POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL. NE REMPLACER QUE LES PIÈCES RECOMMANDÉES PAR LE F.



*3	EXCEPT	
C107	0.01	0.0056
R109	9.1K	47K

*2	EXCEPT	
R311, R312	7.5K	20K

TO CONTROL PCB	
JS21	GND (SYS)
JS20	L OUT
JS19	R OUT
JS18	TUNED
JS17	STEREO
JS16	MUTE
JS15	FM AUTO
JS14	
TO CONTROL PCB	
JS13	GND (SYS)
JS12	NC
JS11	12V
JS10	GND (12V)
JS9	DATA
JS8	CLK
JS7	CE
JS6	STOUT
JS5	STRQ
JS4	GND (12V)

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μ F (P-PF)
ALL ELECTROLYTIC CAPACITORS IN μ F/WV

INDICATED VOLTAGES WERE MEASURED
DURING FM STEREO MODE.

TP-570/670
TUNER
SCHEMATIC DIAGRAM
NO.12-5 A601105M
A1

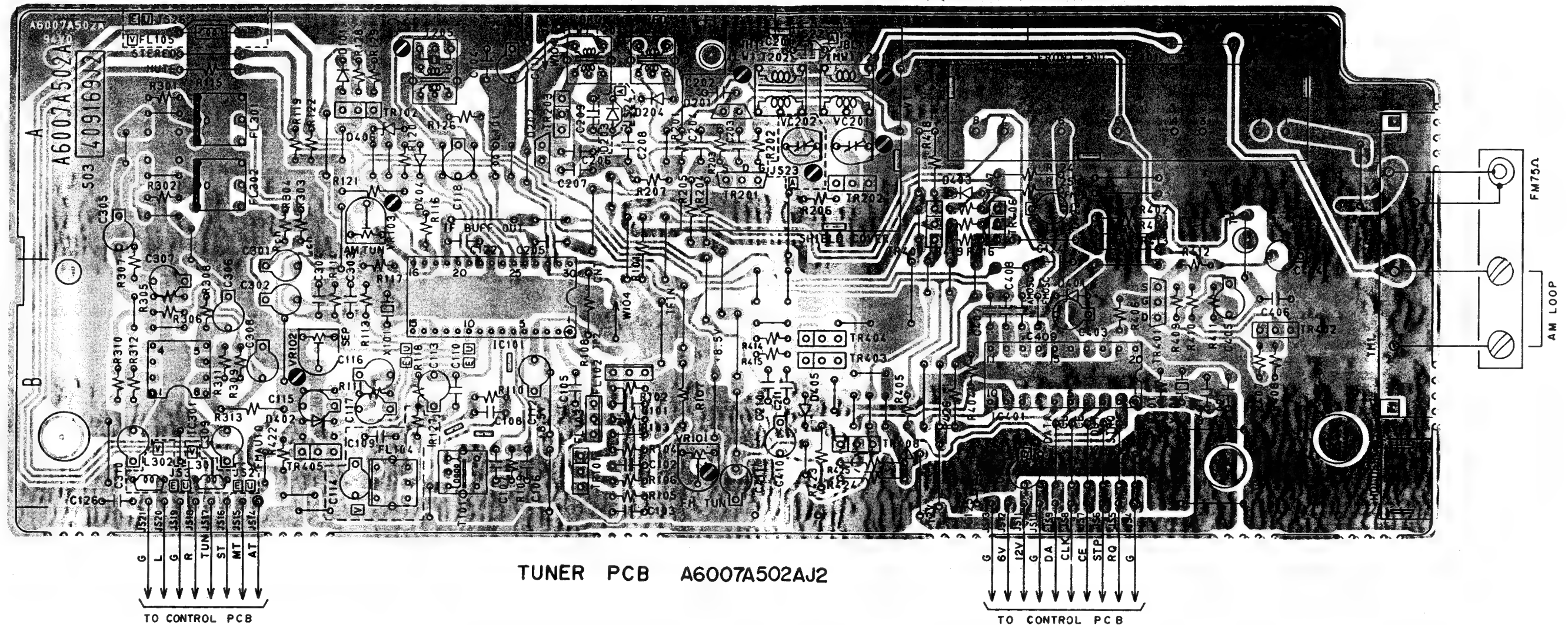
PRINCIPAL PARTS LOCATION

TRANSISTORS

TR101	.....	B3	TR403	.....	B4
TR102	.....	A2	TR404	.....	B4
TR201	.....	A3	TR405	.....	B2
TR202	.....	A4	TR406	.....	A4
TR203	.....	A3	TR407	.....	A4
TR401	.....	B5	TR408	.....	B4
TR402	.....	B5,6			

ICs

IC101	.....	B2,3
IC301	.....	B1
IC401	.....	B4,5

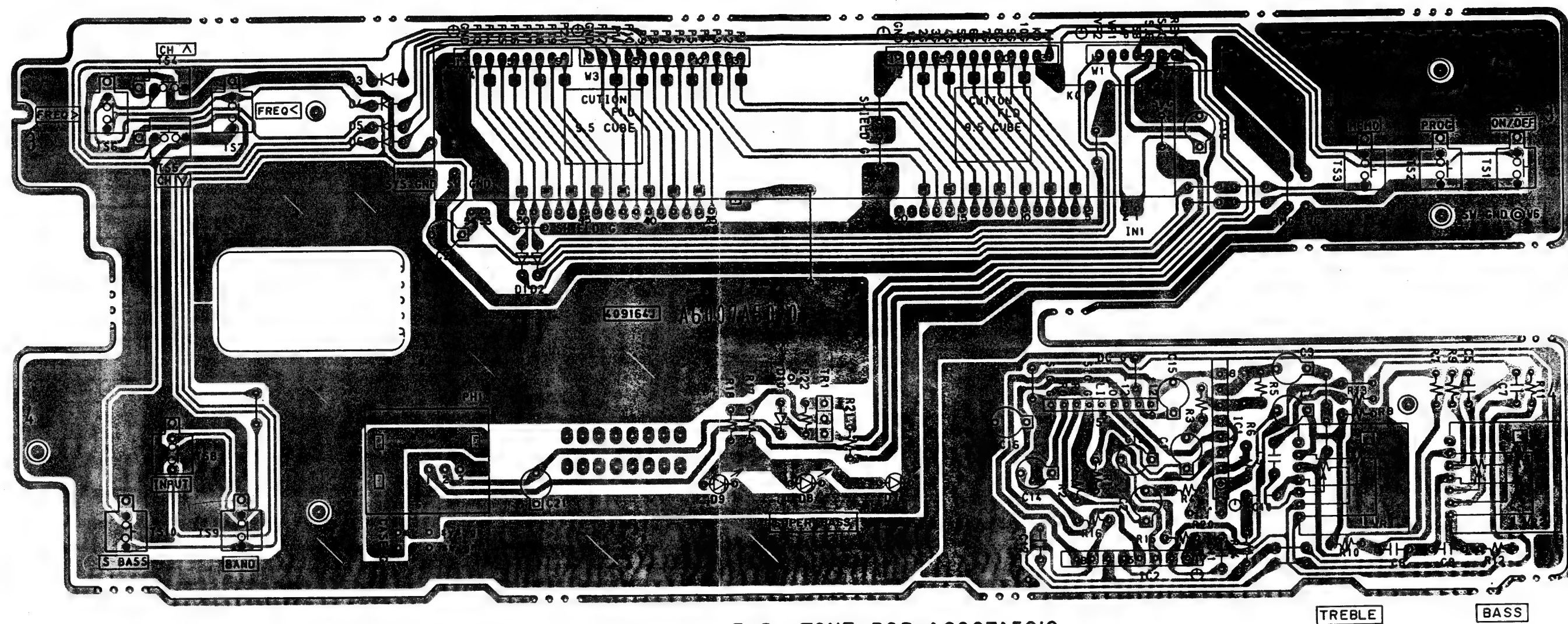


TUNER PCB A6007A502AJ2

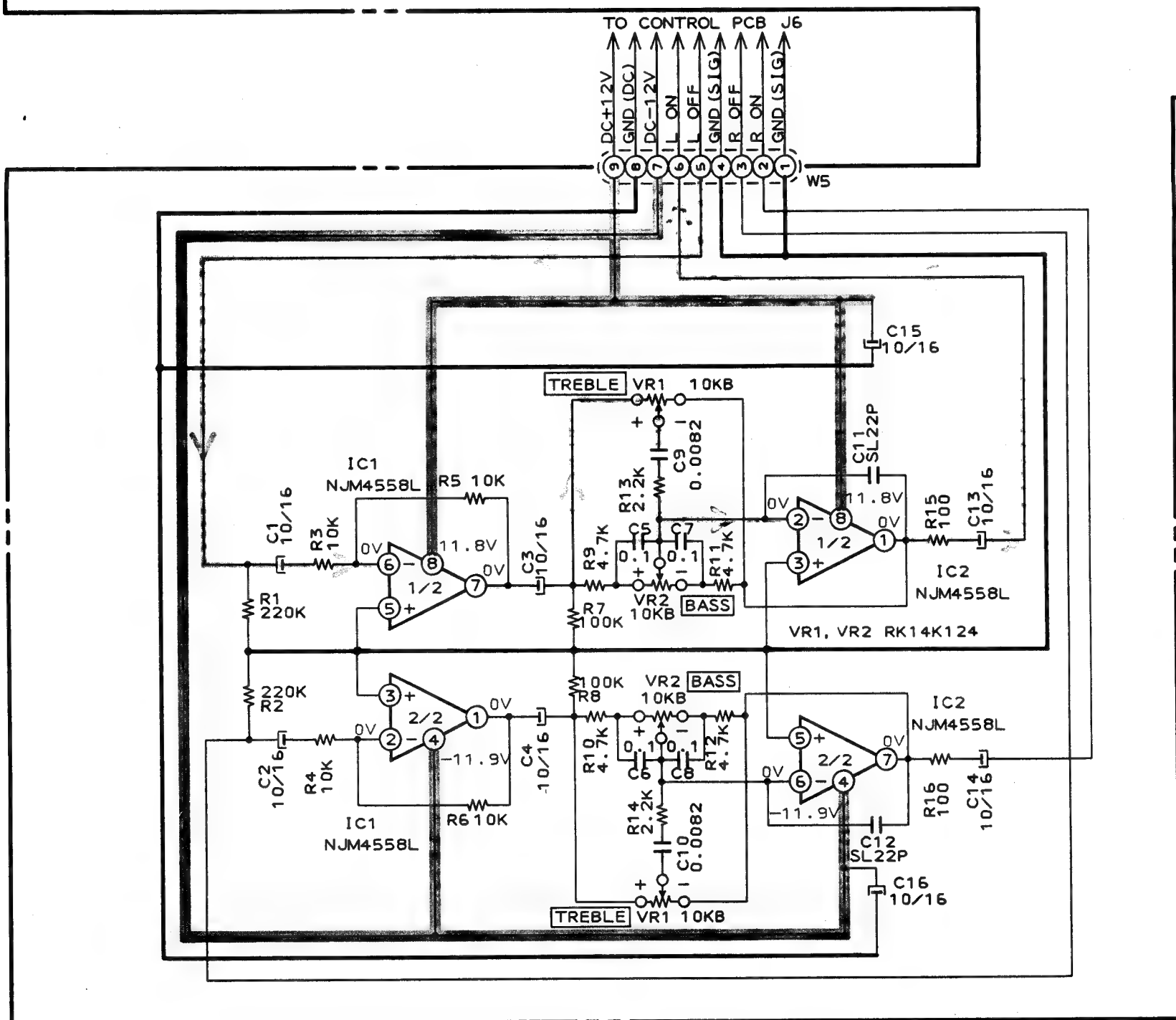
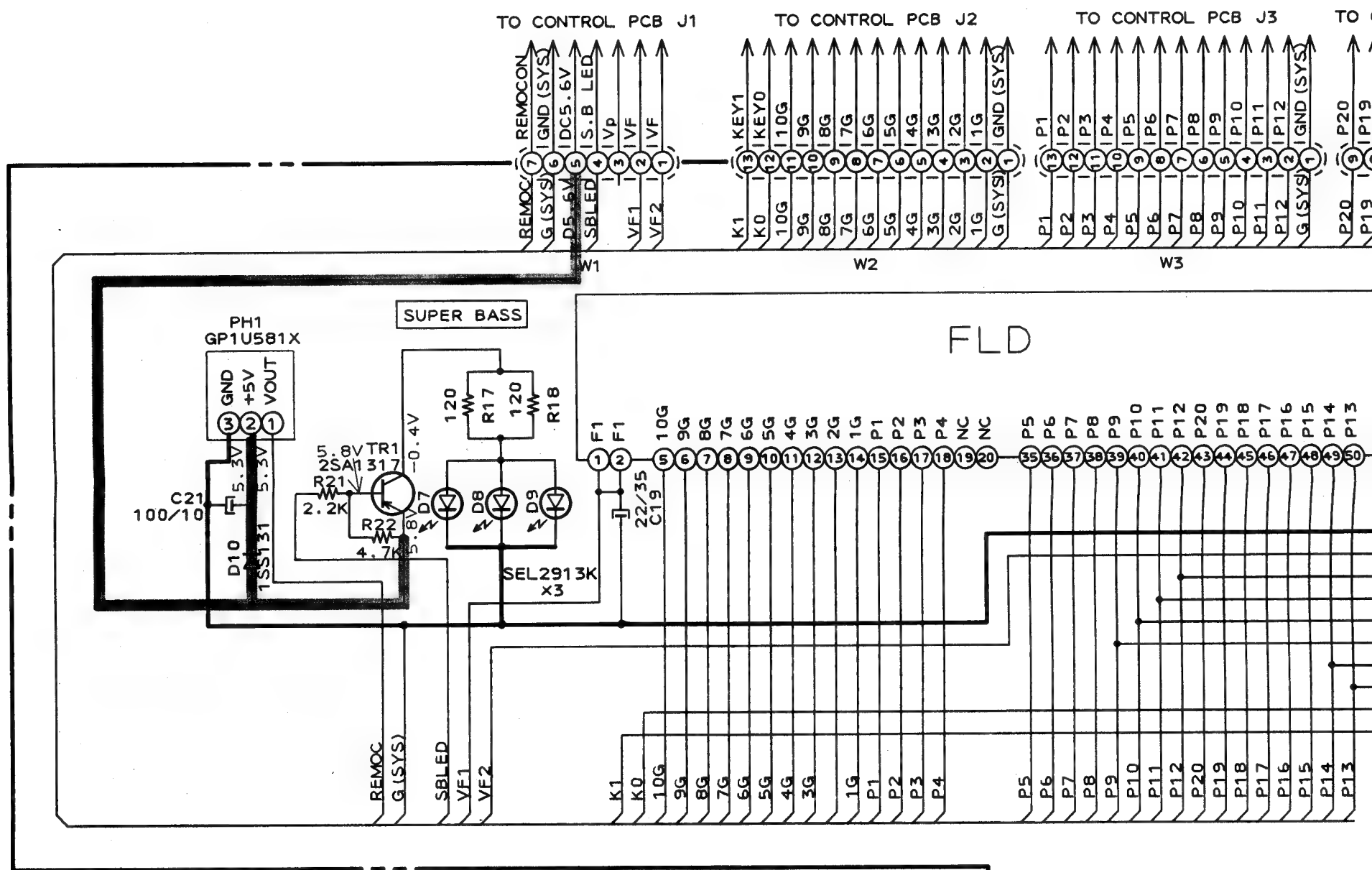
WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

NOTE: PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

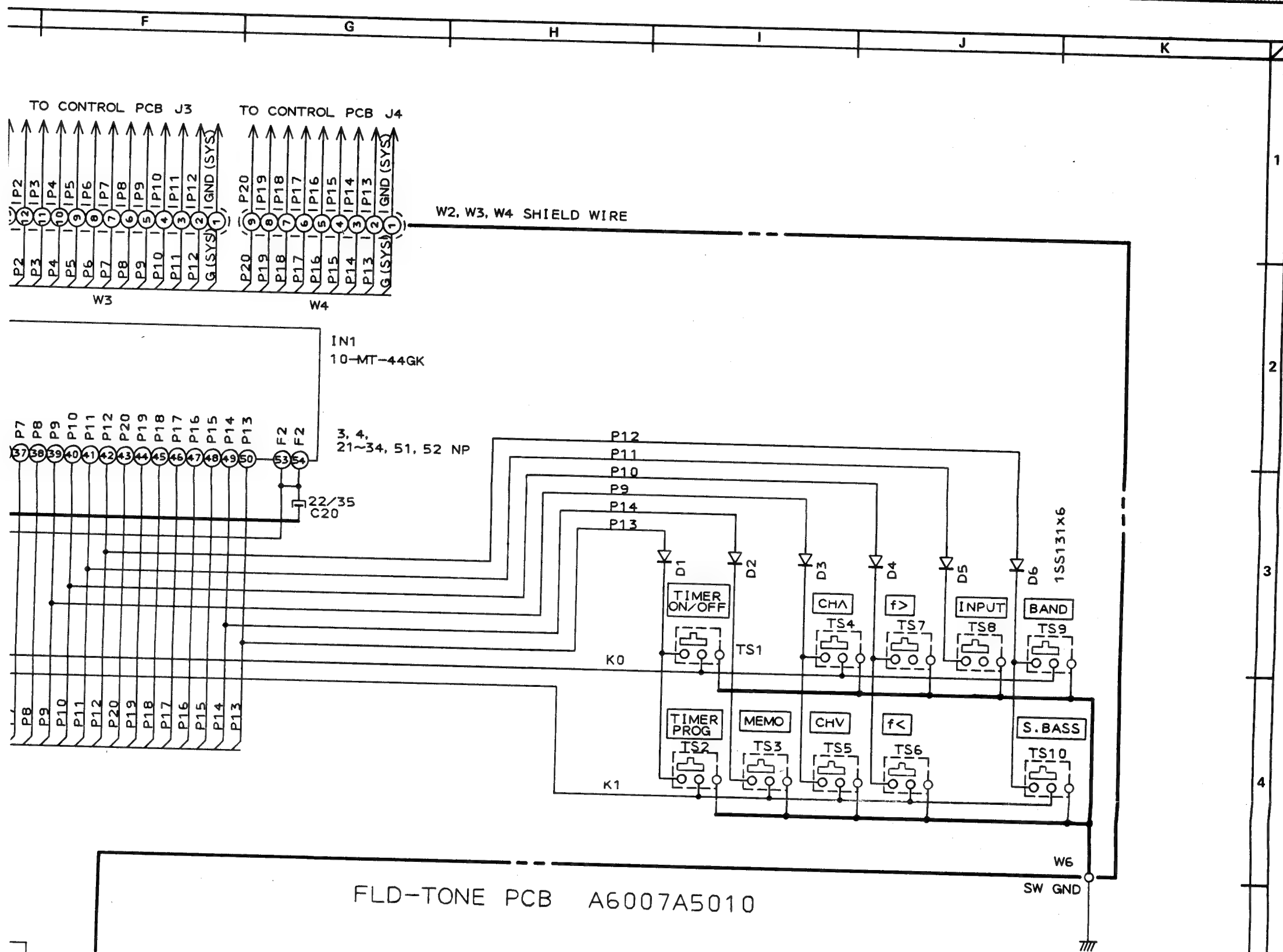


FLD - TONE PCB A6007A5010



INDICATED
DURING FM

NOTE
UNLESS OTH
ALL RESIST
ALL CAP
ALL CAP
LAST No. C



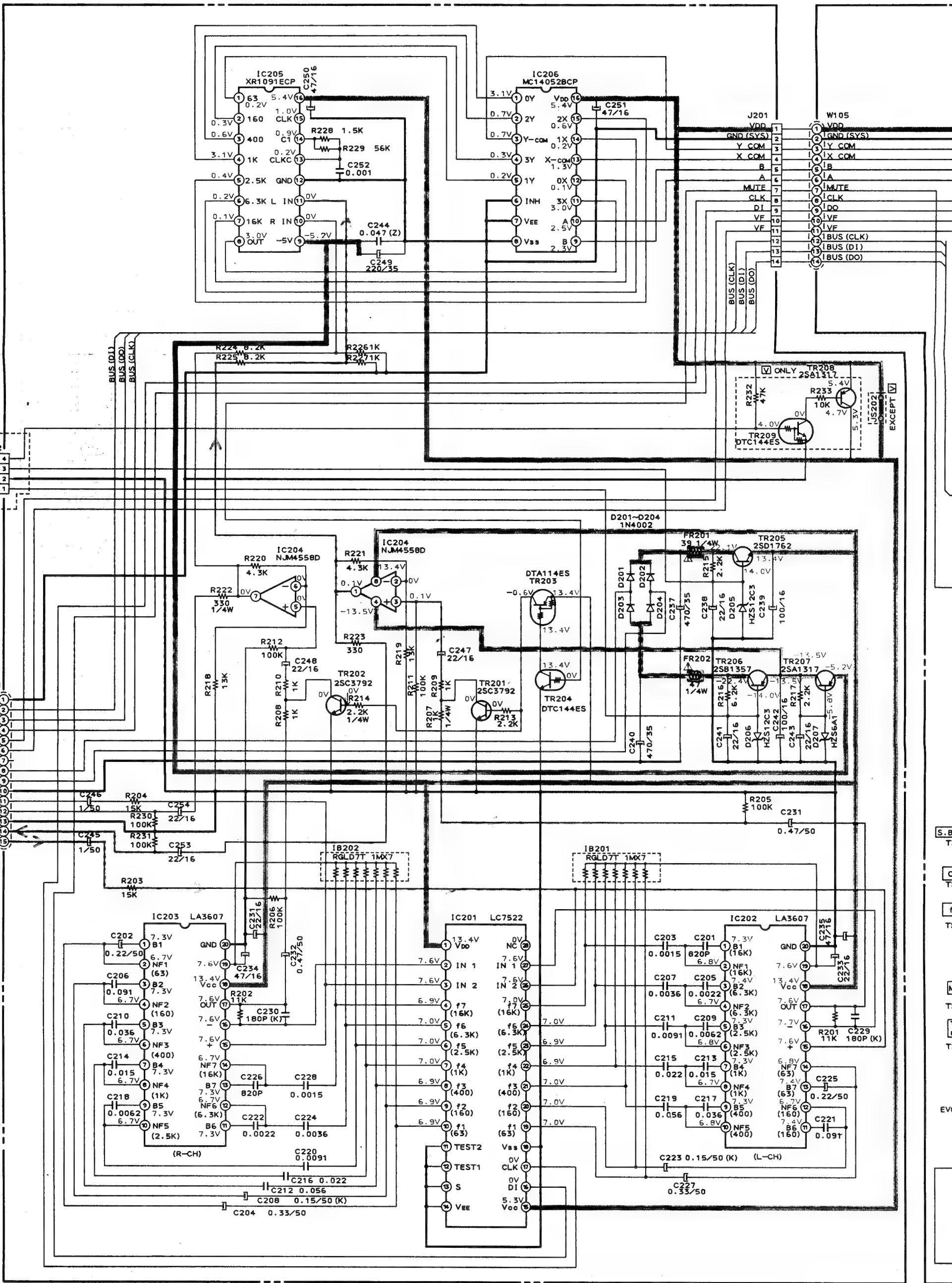
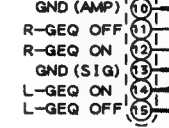
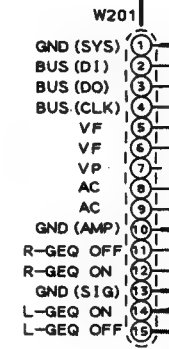
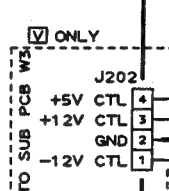
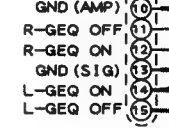
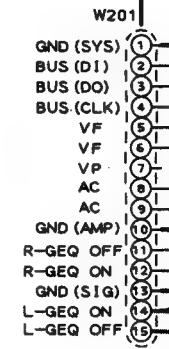
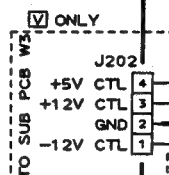
— B (POWER SUPPLY) LINE

— AUDIO SIGNAL LINE (L-CH)

INDICATED VOLTAGES WERE MEASURED
DURING FM STEREO MODE.

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μ F 50WV (J)
ALL CAPACITORS IN μ F (M)
LAST No. C21, D10, R22

TP-570
FLD TONE
SCHEMATIC DIAGRAM
NO.12-6 A601106M
A2

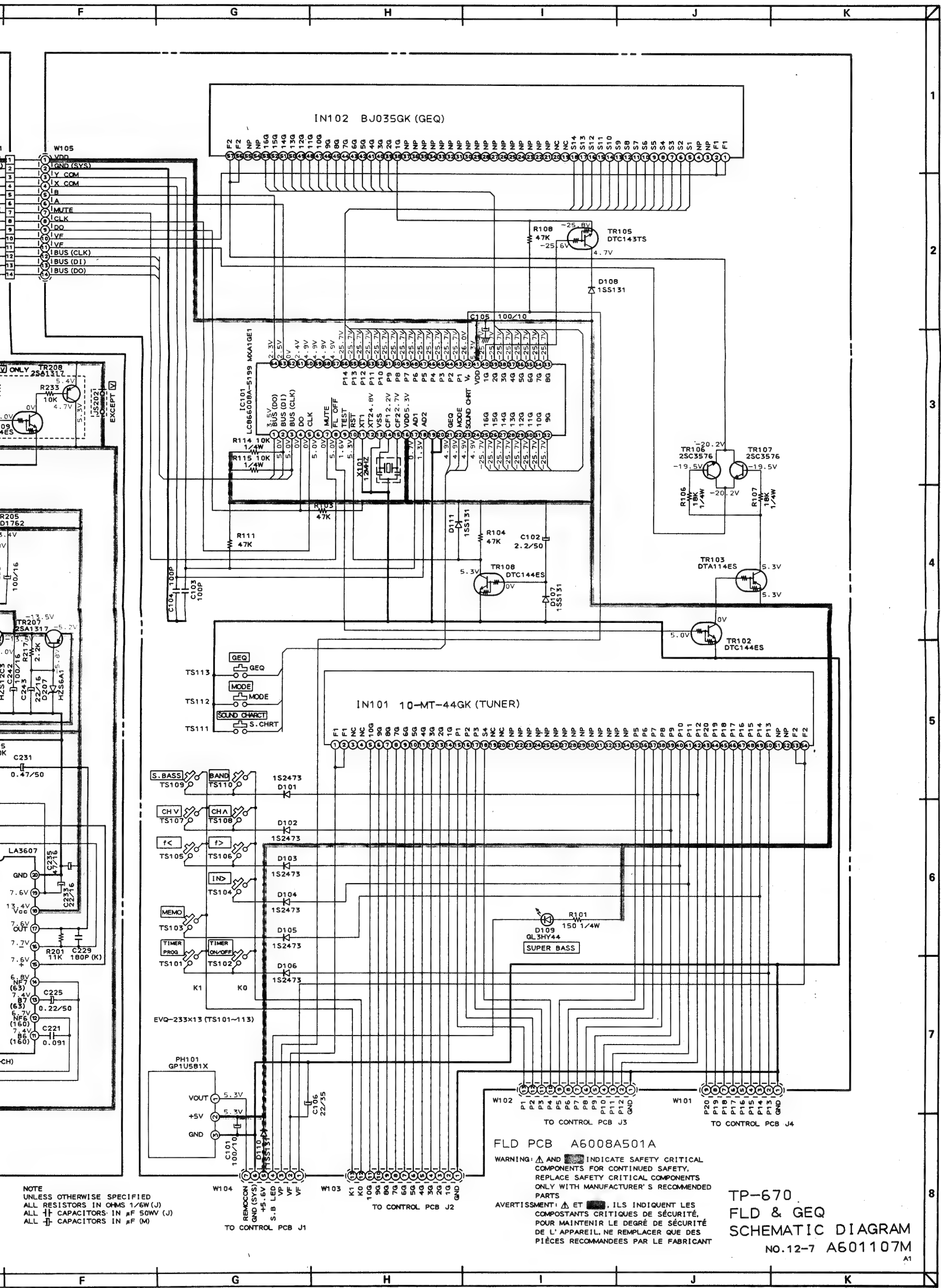


GEQ PCB A6008A501B

INDICATED VOLTAGES WERE MEASURED WHEN NO SIGNAL WAS BEING INPUT.

B (POWER SUPPLY) LINE
AUDIO SIGNAL LINE (L-CH)

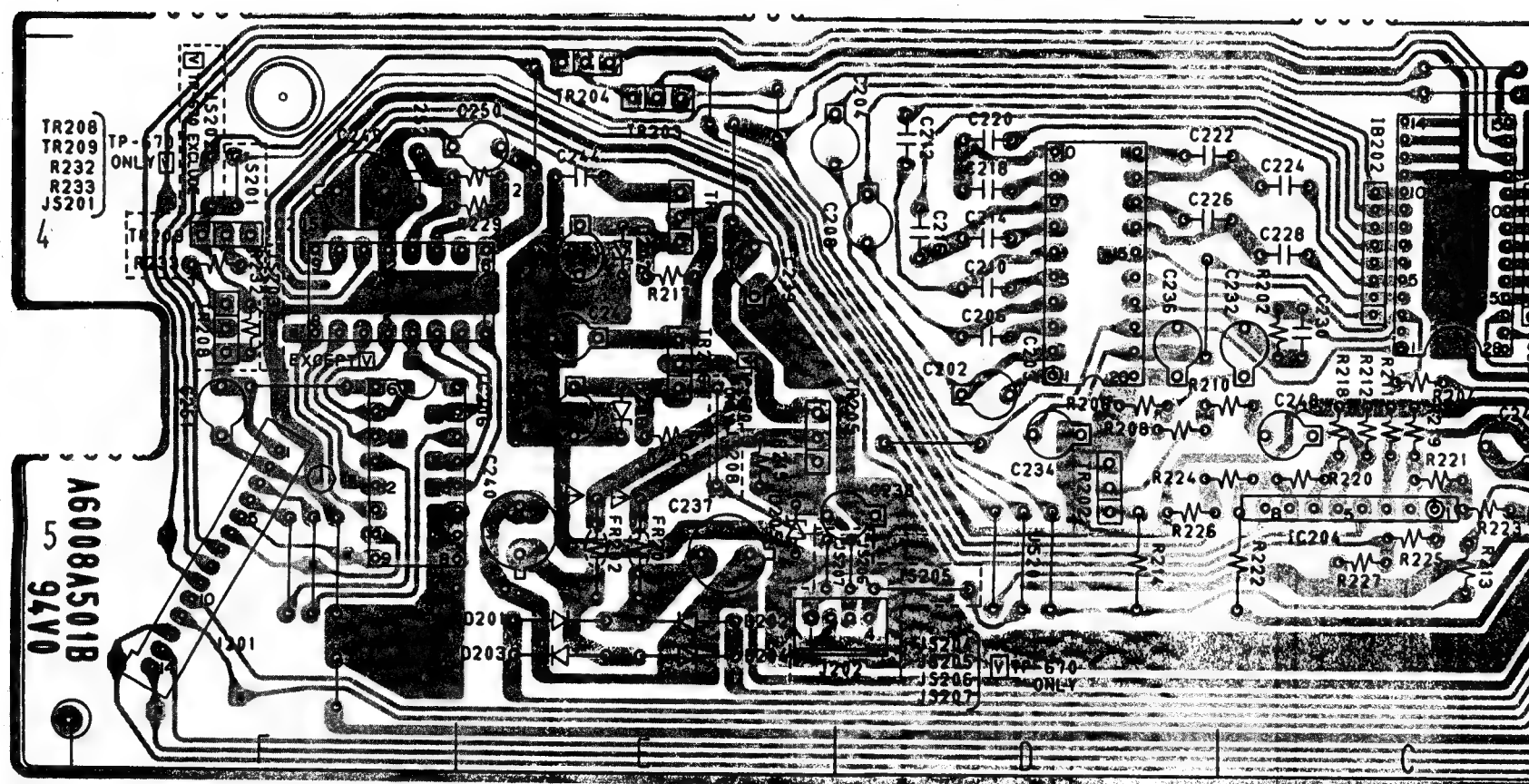
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μ F 50WV (L)
ALL CAPACITORS IN μ F (M)





NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μ F 50WV(J)
ALL CAPACITORS IN μ F (M)

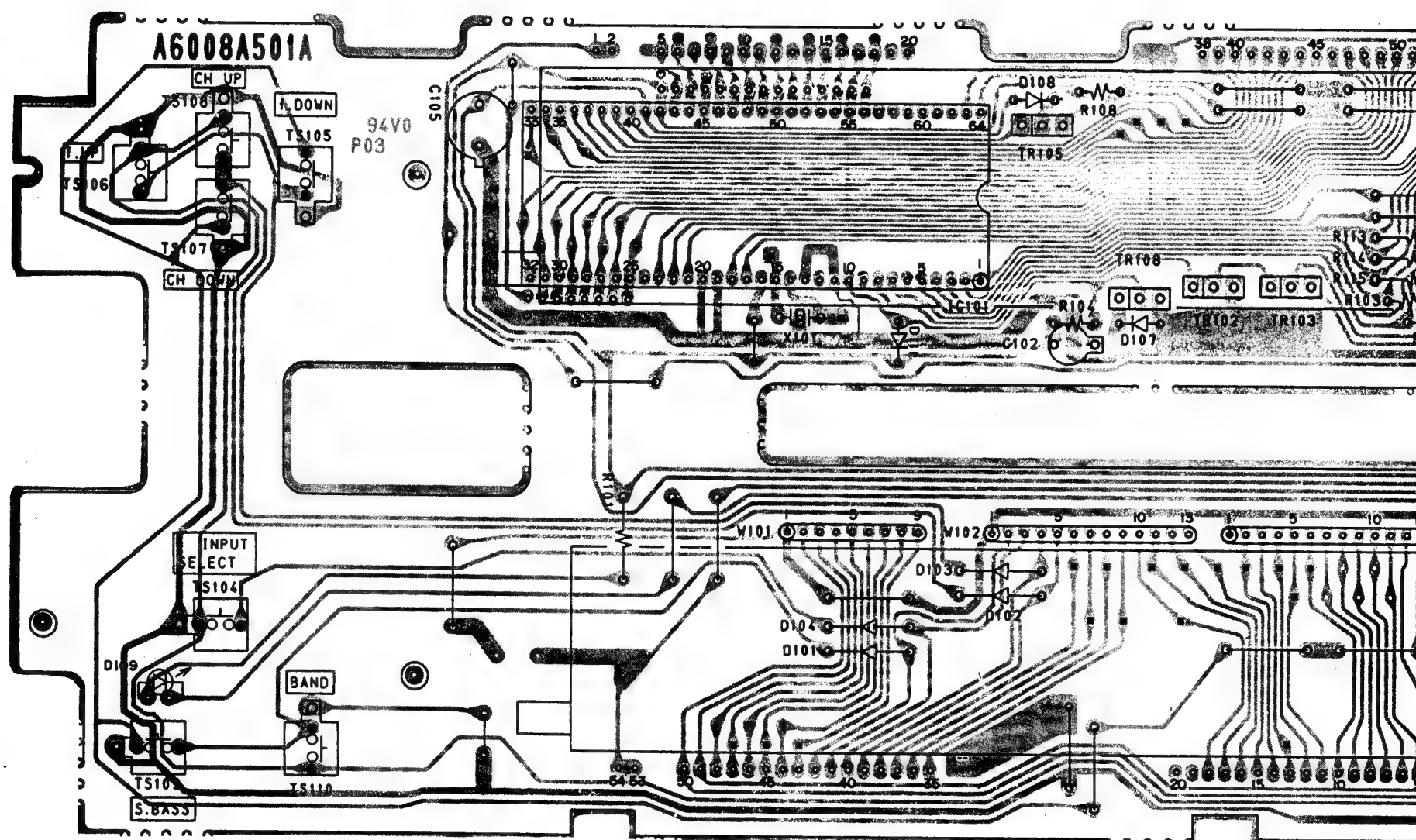
FLD PCB A6008A501A
WARNING: AND INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS
AVERTISSEMENT: ET ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

TP-670
FLD & GEQ
SCHEMATIC DIAGRAM
NO.12-7 A601107M
A1

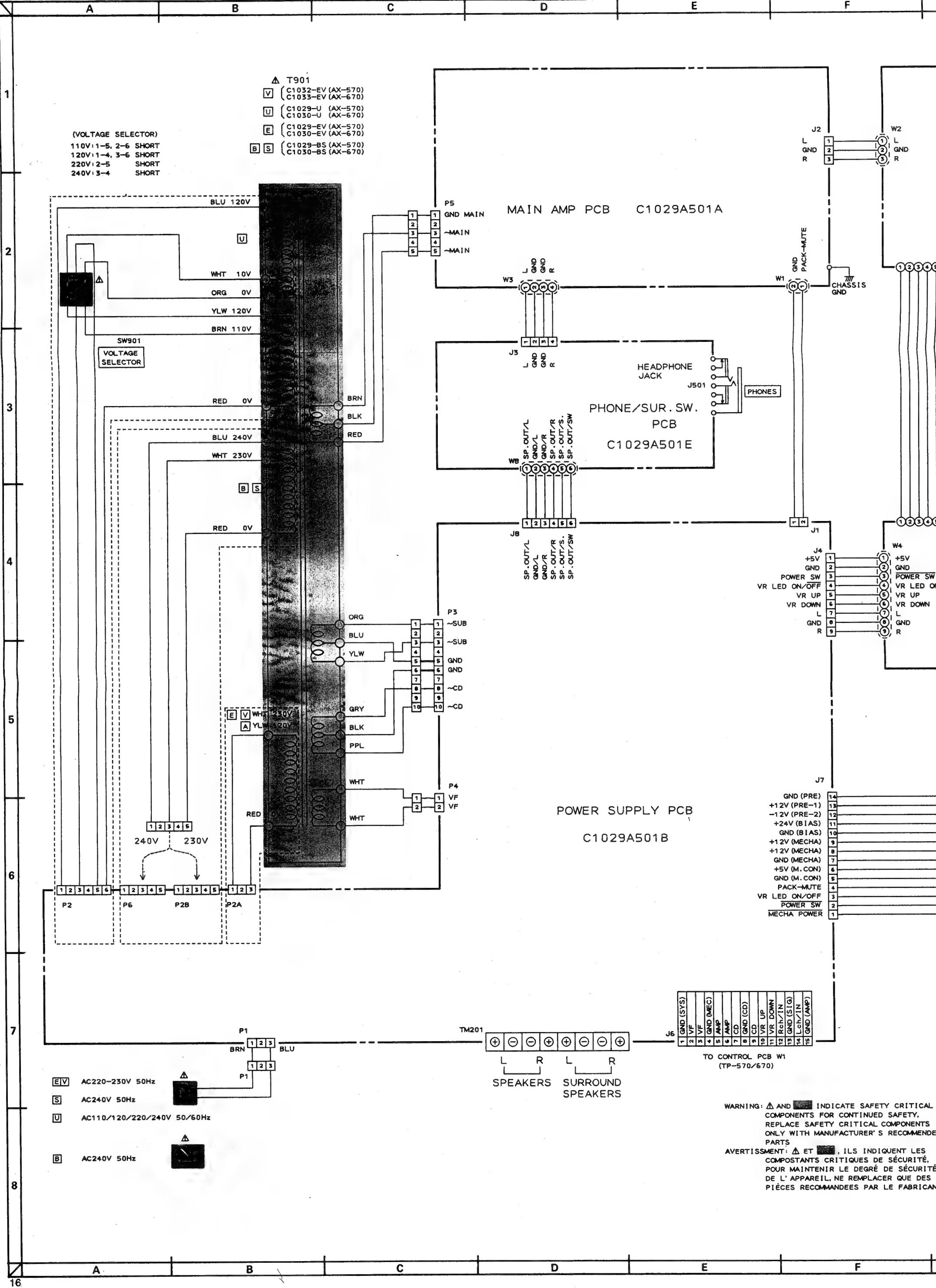


GEQ PCB A6008A50IBJ2

WARNING:  INDICATE
REPLACEMENT
RECOMMENDED
AVERTISSEMENT:  POUR
NE RECHANGER



FLD PCB A6008A50IAJ2



(VOLTAGE SELECTOR)
110V: 1-5, 2-6 SHORT
120V: 1-4, 3-6 SHORT
220V: 2-5 SHORT
240V: 3-4 SHORT

- △ T901
- V (C1032-EV (AX-570)
C1033-EV (AX-670)
 - U (C1029-U (AX-570)
C1030-U (AX-670)
 - E (C1029-EV (AX-570)
C1030-EV (AX-670)
 - B S (C1029-B5 (AX-570)
C1030-B5 (AX-670)

MAIN AMP PCB C1029A501A

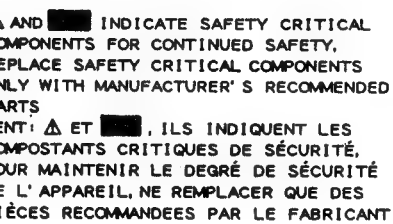
PHONE/SUR. SW. PCB
C1029A501E

POWER SUPPLY PCB
C1029A501B

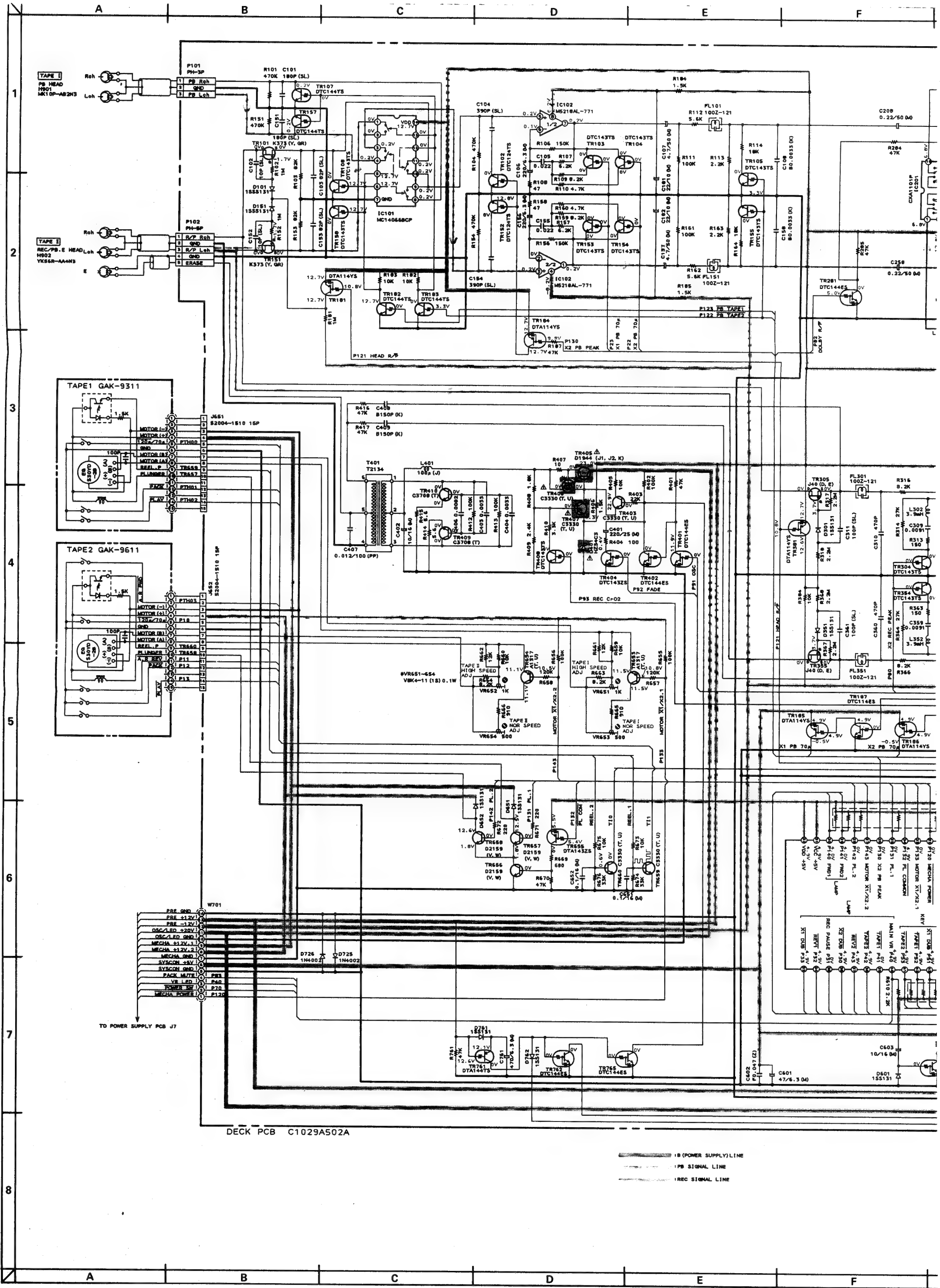
- E V AC220-230V 50Hz
- S AC240V 50Hz
- U AC110/120/220/240V 50/60Hz
- B AC240V 50Hz

WARNING: △ AND ■ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: △ ET ■, ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

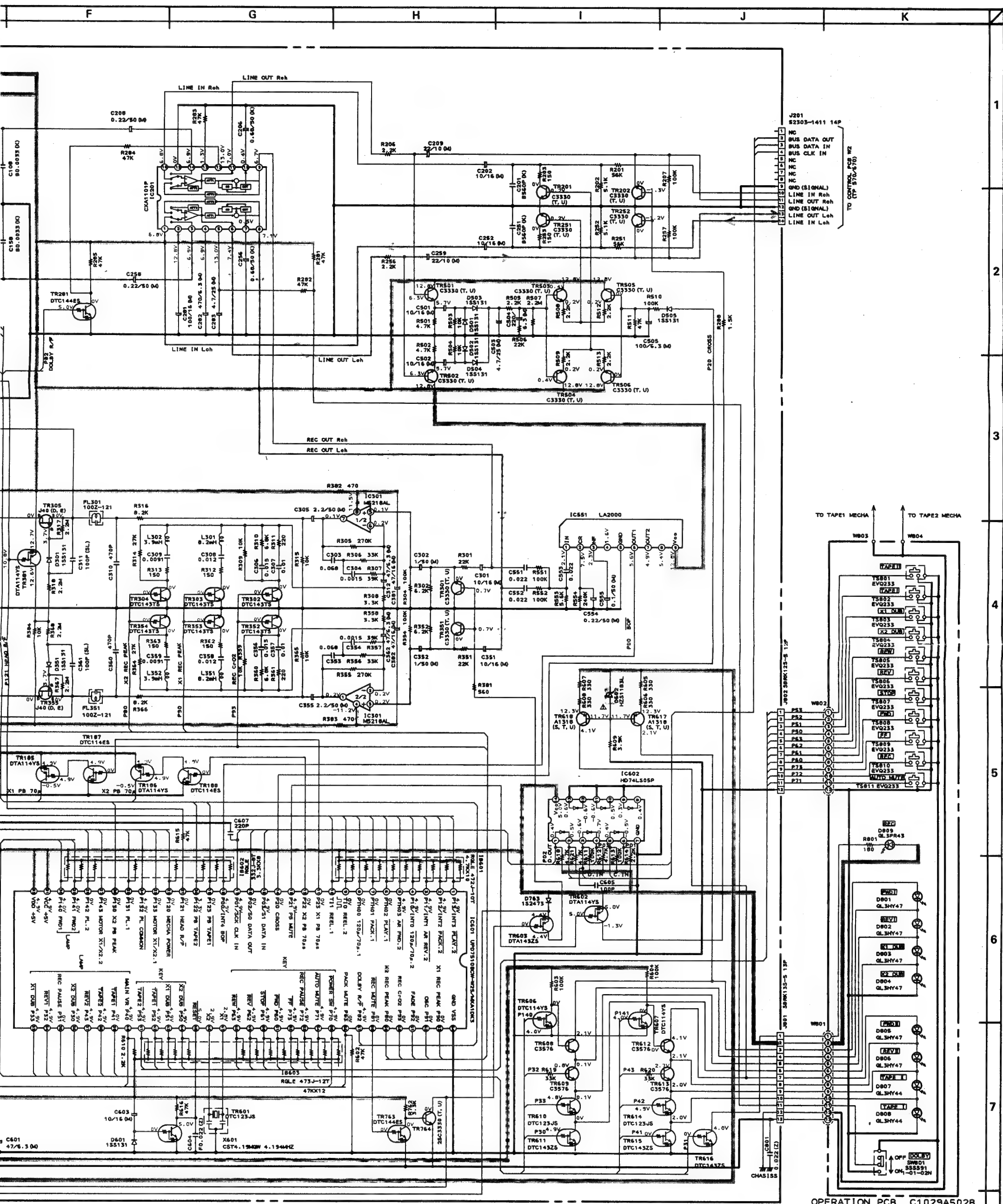


A



DECK PCB C1029A502A

1B (POWER SUPPLY) LINE
PB (SIGNAL) LINE
REC (SIGNAL) LINE



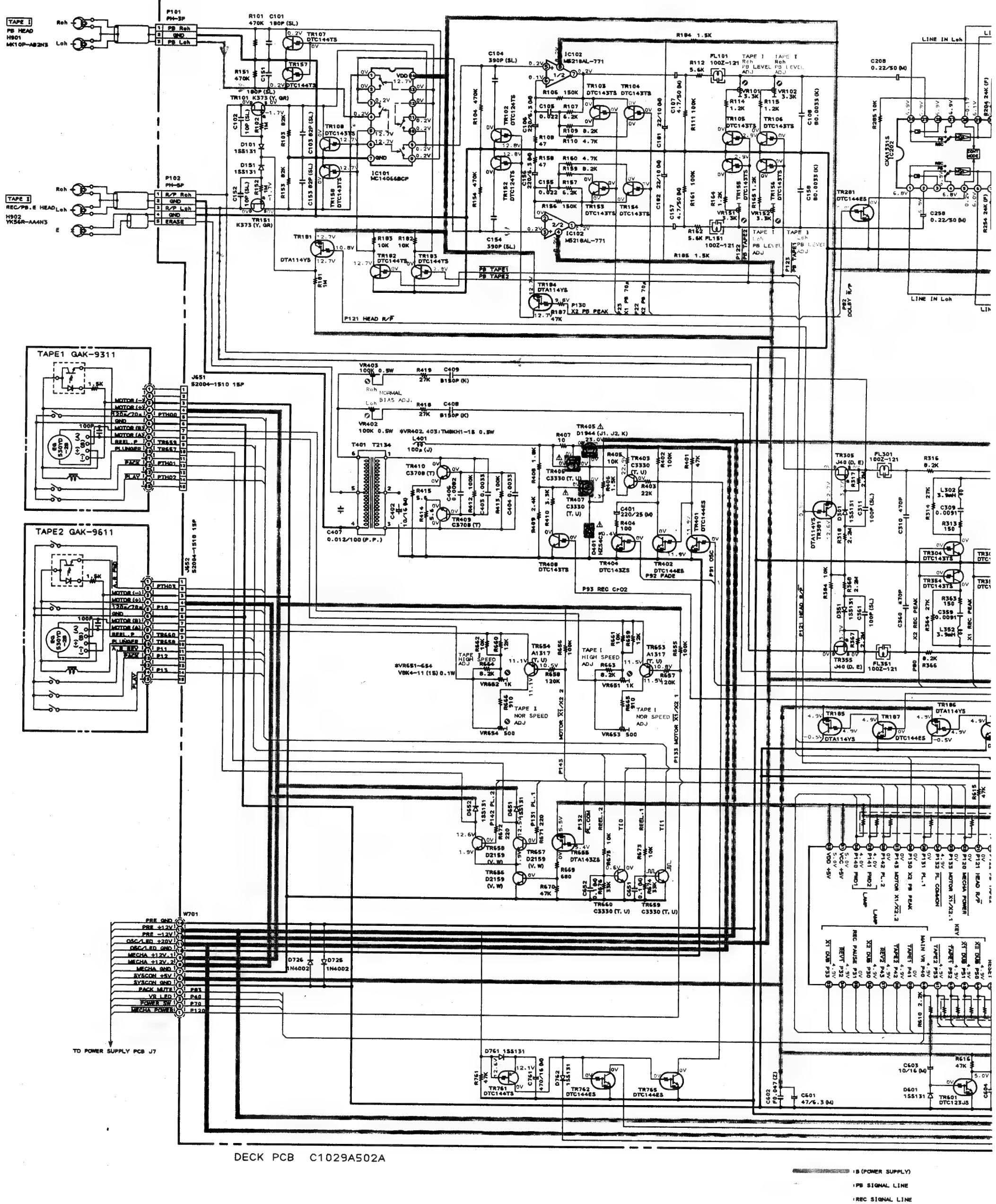
WARNING: AND INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

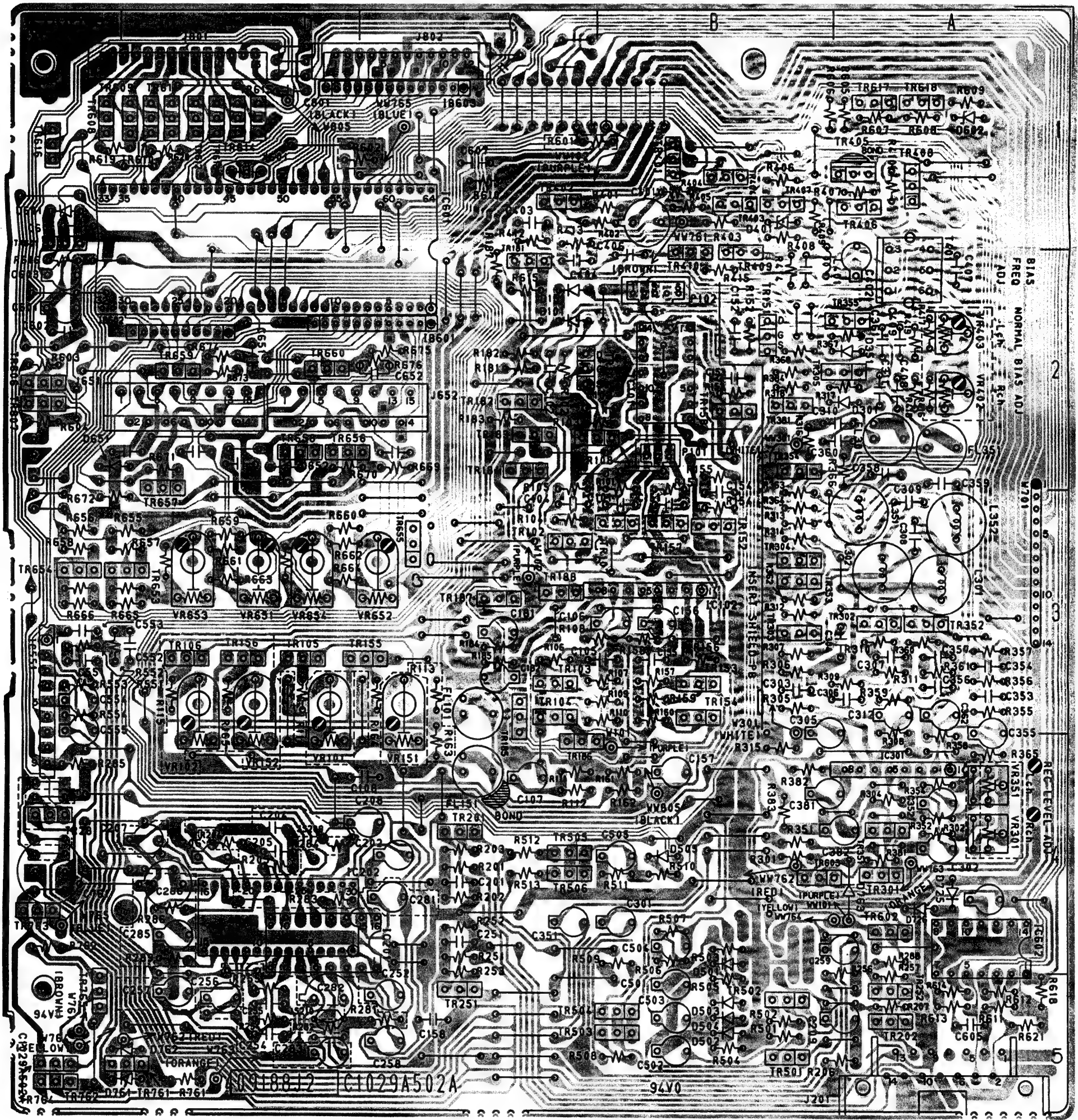
AVERTISSEMENT: ET ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

NOTE: UNLESS OTHERWISE SPECIFIED, ALL RESISTORS IN OHMS (Ω), KΩ (K), MΩ (M), ALL CAPACITORS IN μF (μ), 50WV (V).

INDICATED VOLTAGES WERE MEASURED DURING PB MODE. (TAPE USED: NORMAL TYPE, DOLBY SW: OFF)

AX-570
DECK & OPERATION
SCHEMATIC DIAGRAM
NO.12-9 C103202M
A0





DECK PCB C1029A502AJ2

PRINCIPAL PARTS

ICs

IC101	..... B
IC102	..... B
IC201	..... C
IC202	..... D
IC301	..... A
IC551	..... E
IC601	..... D
IC602	..... A

WIRES

W701	..... A
J201	..... A
J651	..... D
J652	..... C
J801	..... D
J802	..... C

CONNECTORS

P101	..... B
P102	..... B

TRANSISTORS

TR101	..... B
TR102	..... C
TR103	..... C
TR104	..... C
TR105	..... D
TR106	..... D
TR107	..... B
TR108	..... B
TR151	..... B
TR152	..... B
TR153	..... B
TR154	..... B
TR155	..... C
TR156	..... D
TR157	..... B
TR158	..... B
TR181	..... C
TR182	..... C
TR183	..... C
TR184	..... C
TR185	..... B
TR186	..... B
TR187	..... C
TR188	..... C
TR201	..... C
TR202	..... A
TR251	..... C
TR252	..... A
TR281	..... E
TR301	..... A
TR302	..... A
TR303	..... B

NOTE : PARTS DIFFER DEPENDING ON MODEL N
REFER TO SCHEMATIC DIAGRAMS FOR PER
PARTS INFORMATION.

PRINCIPAL PARTS LOCATION

ICs

IC101	B2	TR304	B3
IC102	B3	TR305	A,B2
IC201	C,D4	TR351	A4
IC202	D4	TR352	A3
IC301	A4	TR353	B3
IC551	E3	TR354	B2
IC601	D1,2	TR355	A,B2
IC602	A4	TR381	B2

WIRES

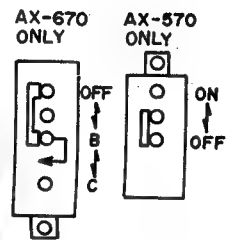
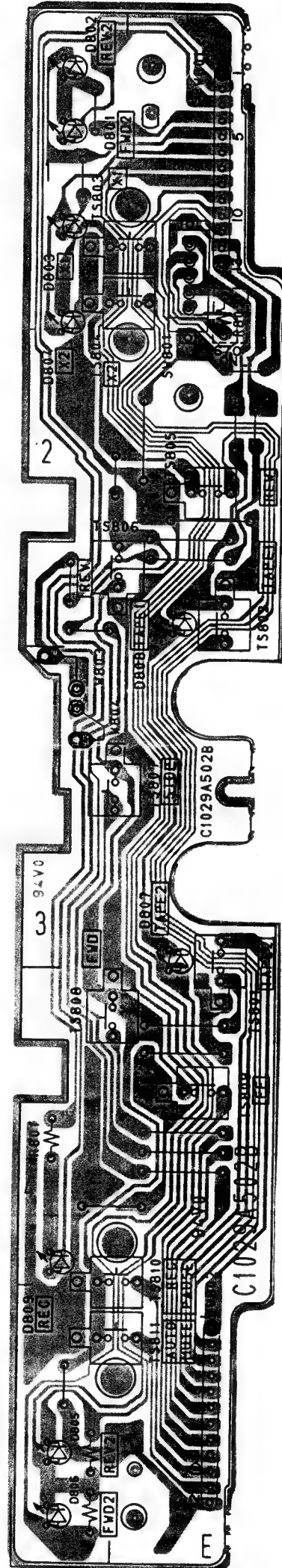
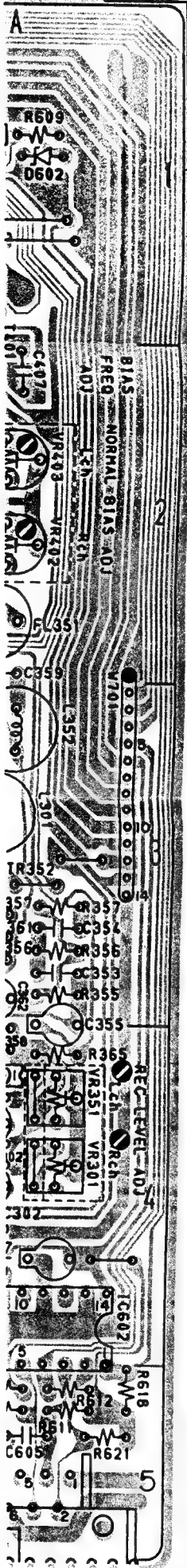
W701	A3
J201	A5
J651	D2
J652	C,D2
J801	D1
J802	C1

CONNECTORS

P101	B2
P102	B2

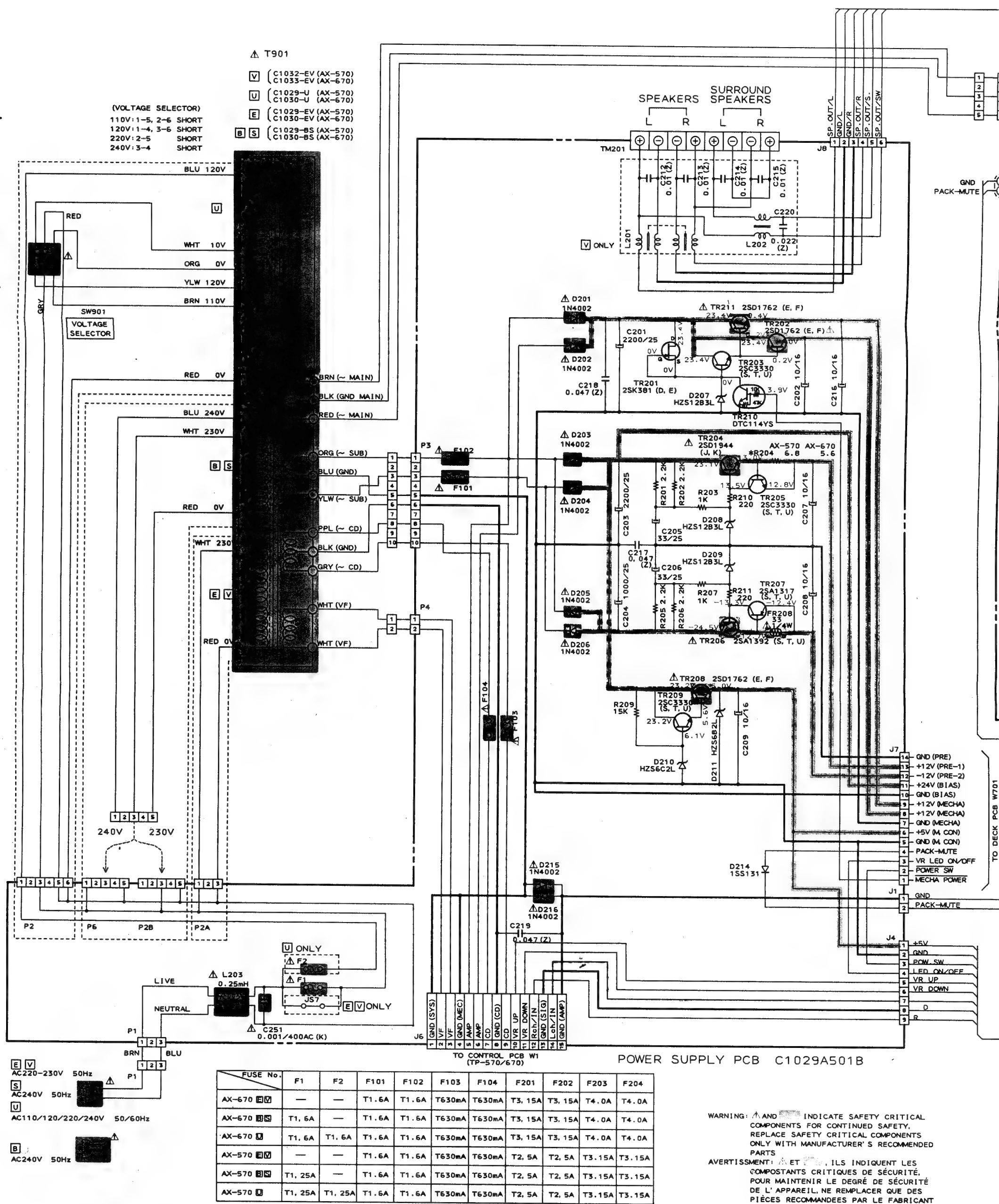
TRANSISTORS

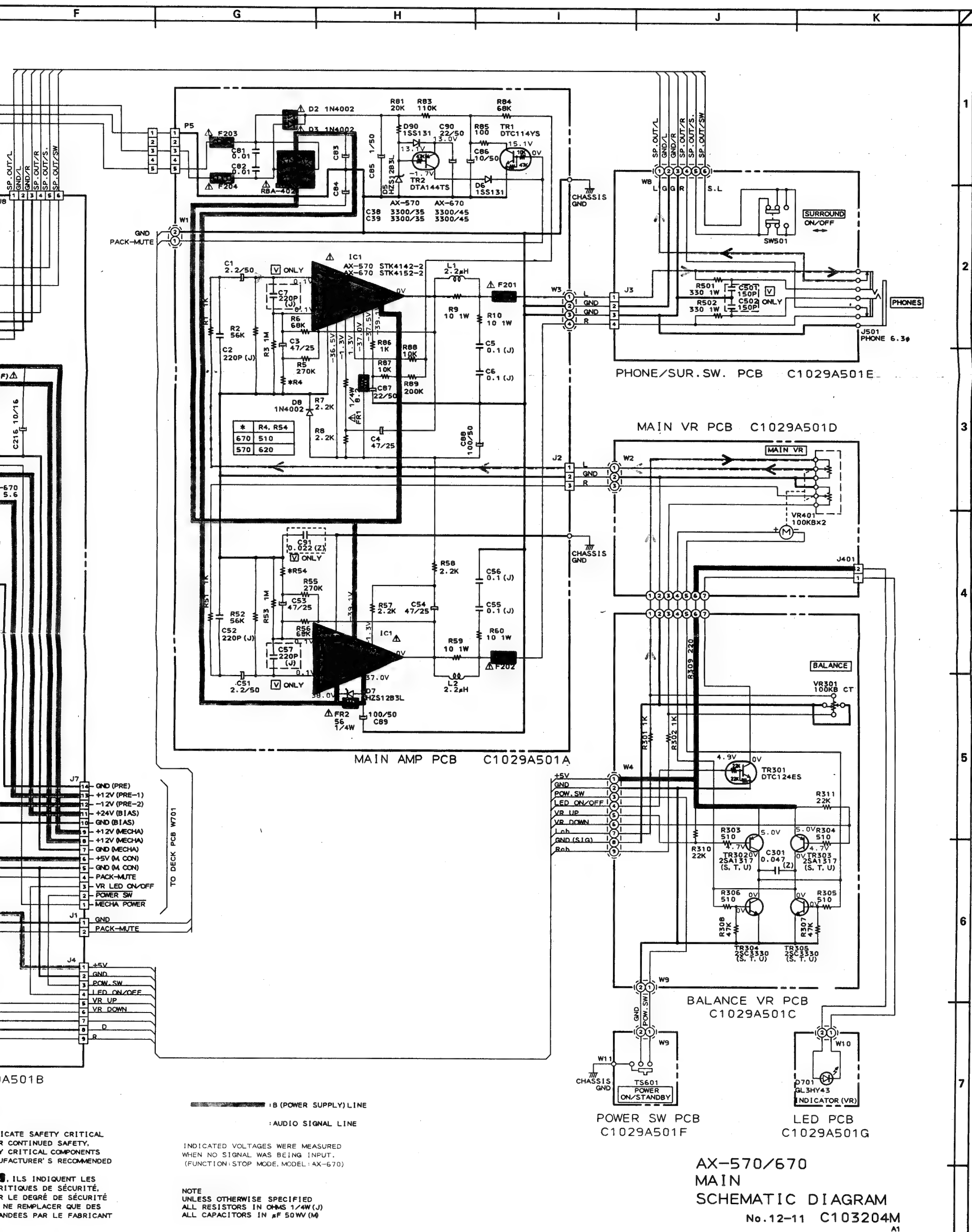
TR101	B,C2	TR504	B,C5
TR102	C3	TR505	C4
TR103	C3	TR506	C4
TR104	C3	TR601	E1,2
TR105	D3	TR602	A4
TR106	D3	TR603	B4
TR107	B,C3	TR606	E2
TR108	B,C2	TR607	E2
TR151	B2	TR608	E1
TR152	B3	TR609	D1
TR153	B3	TR610	D1
TR154	B3	TR611	D1
TR155	C,B3	TR612	D1
TR156	D3	TR613	D1
TR157	B3	TR614	D1
TR158	B2	TR615	D1
TR181	C2	TR616	E1
TR182	C2	TR617	A1
TR183	C2	TR618	A1
TR184	C2	TR653	D,E3
TR185	B,C4	TR654	E3
TR186	B,C4	TR655	C3
TR187	C3	TR656	D2
TR188	C3	TR657	D2
TR201	C4	TR658	D2
TR202	A5	TR659	D2
TR251	C5	TR660	D2
TR252	A5	TR761	D,E5
TR281	E4	TR762	E5
TR301	A4	TR763	E4
TR302	A3	TR764	E5
TR303	B3	TR765	E5

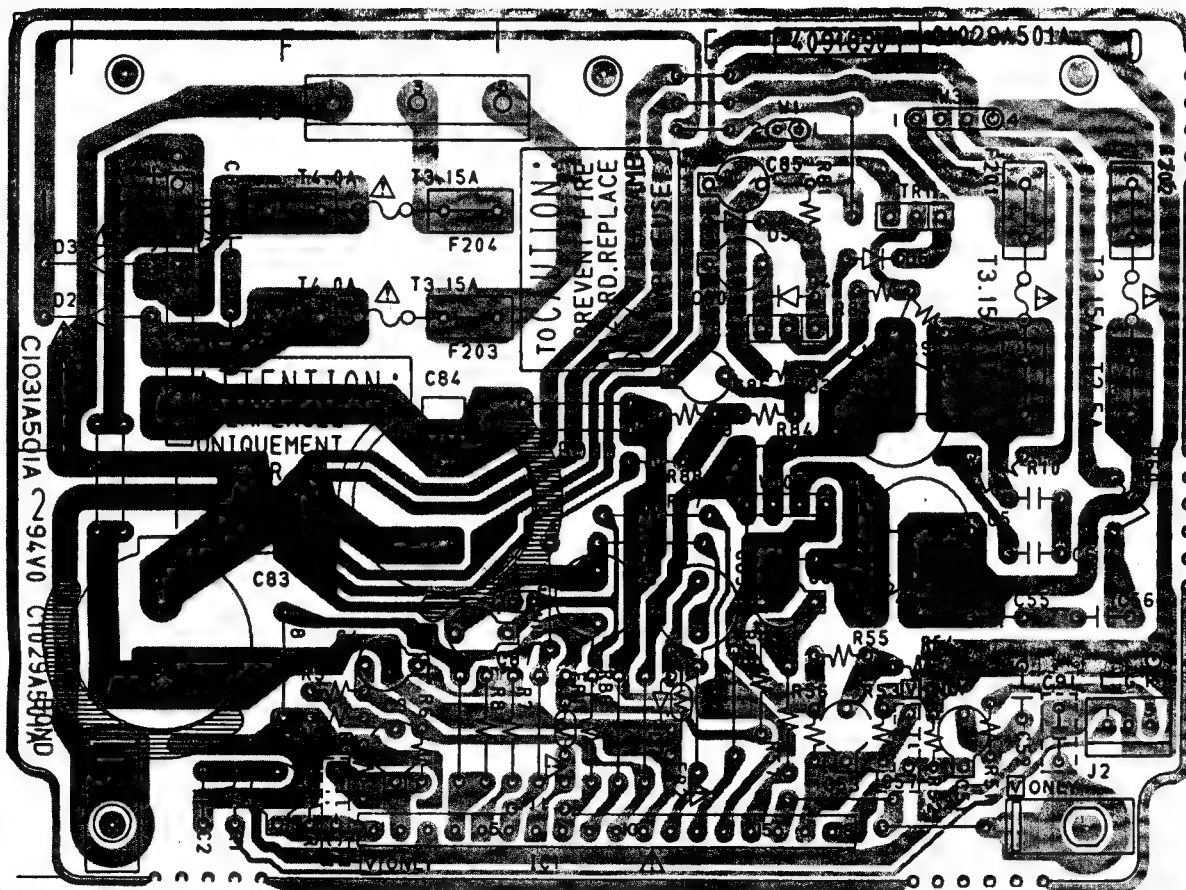


OPERATION PCB
C1029A502BJ2

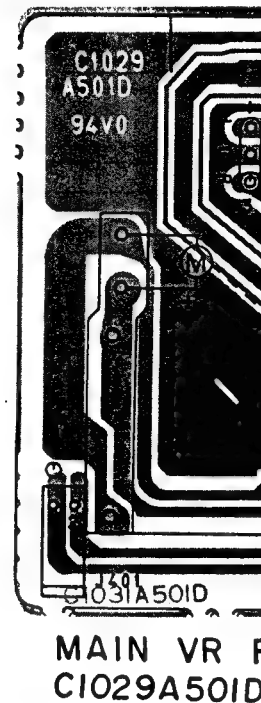
DIFFER DEPENDING ON MODEL NUMBER.
TO SCHEMATIC DIAGRAMS FOR PERTINENT
INFORMATION.



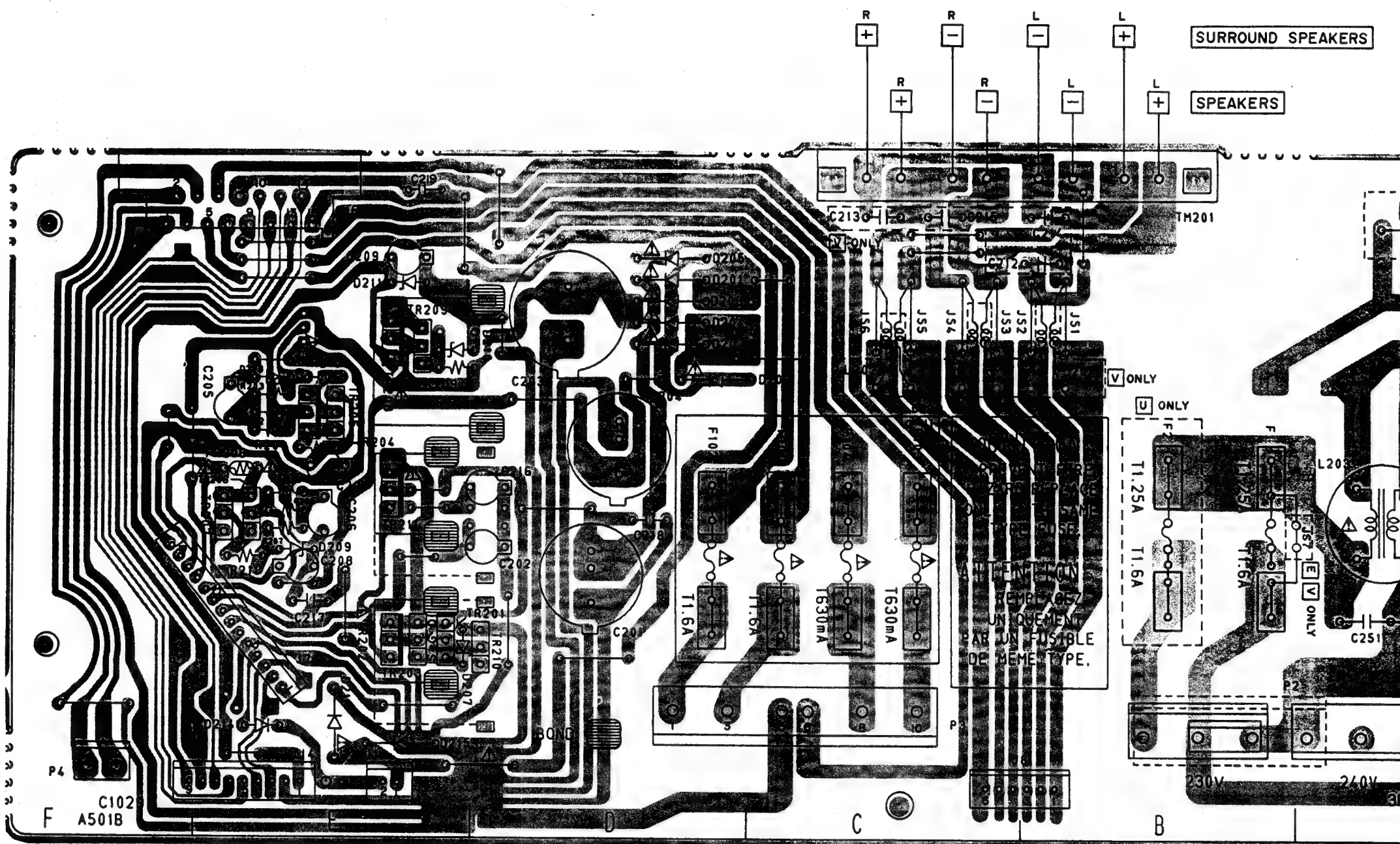




MAIN AMP PCB C1029A501AJ2



MAIN VR PCB C1029A501D

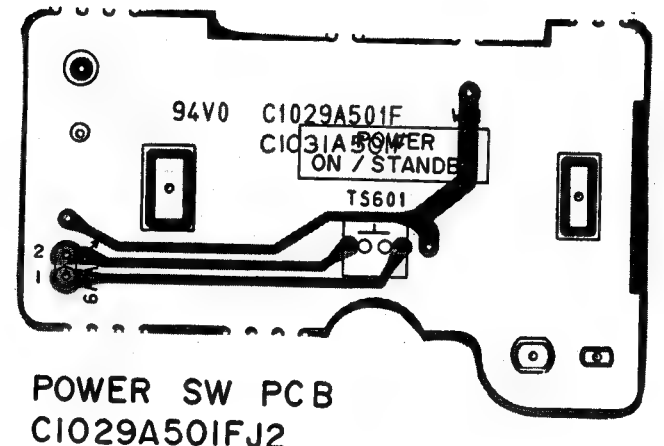
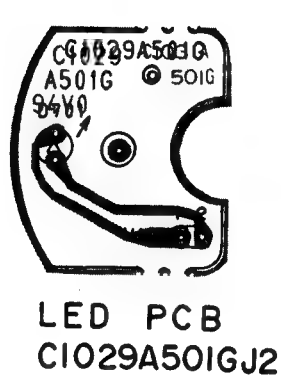
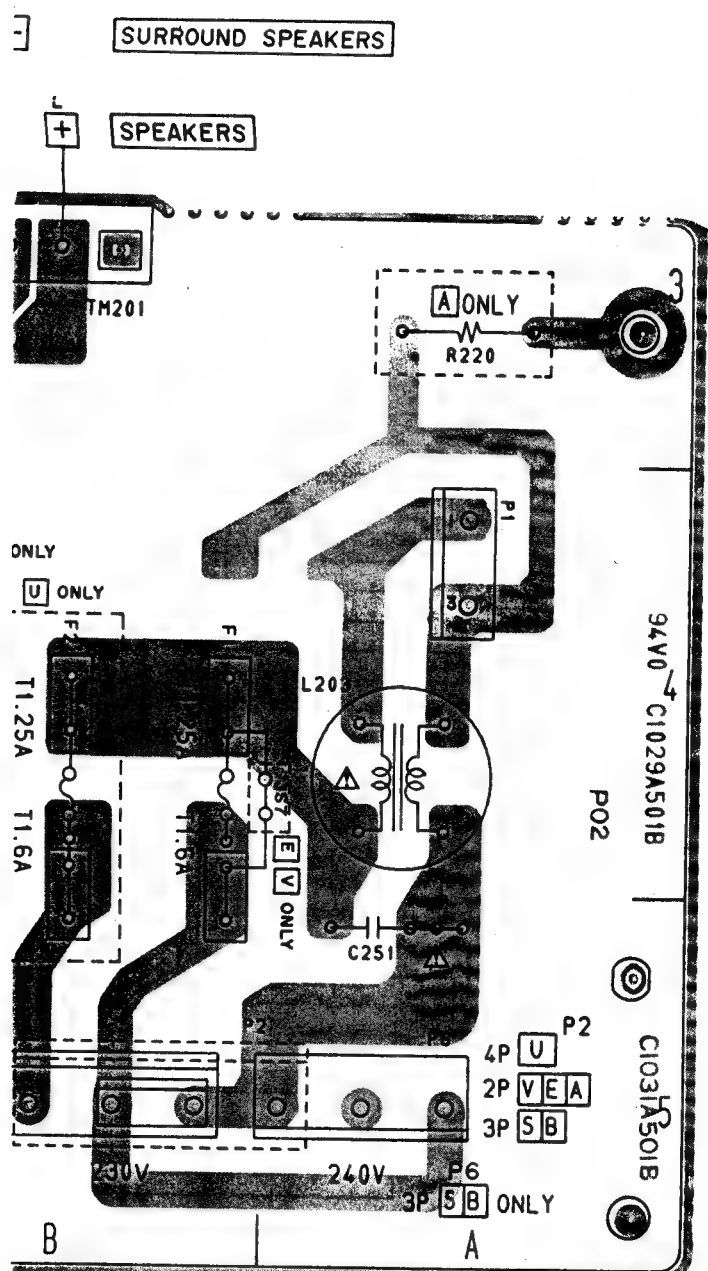
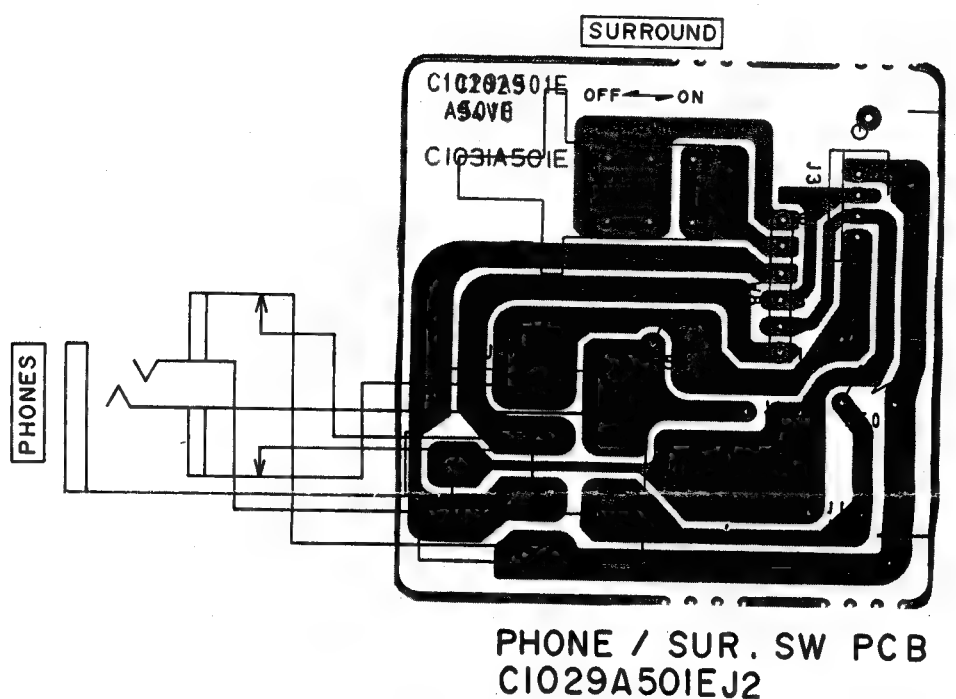
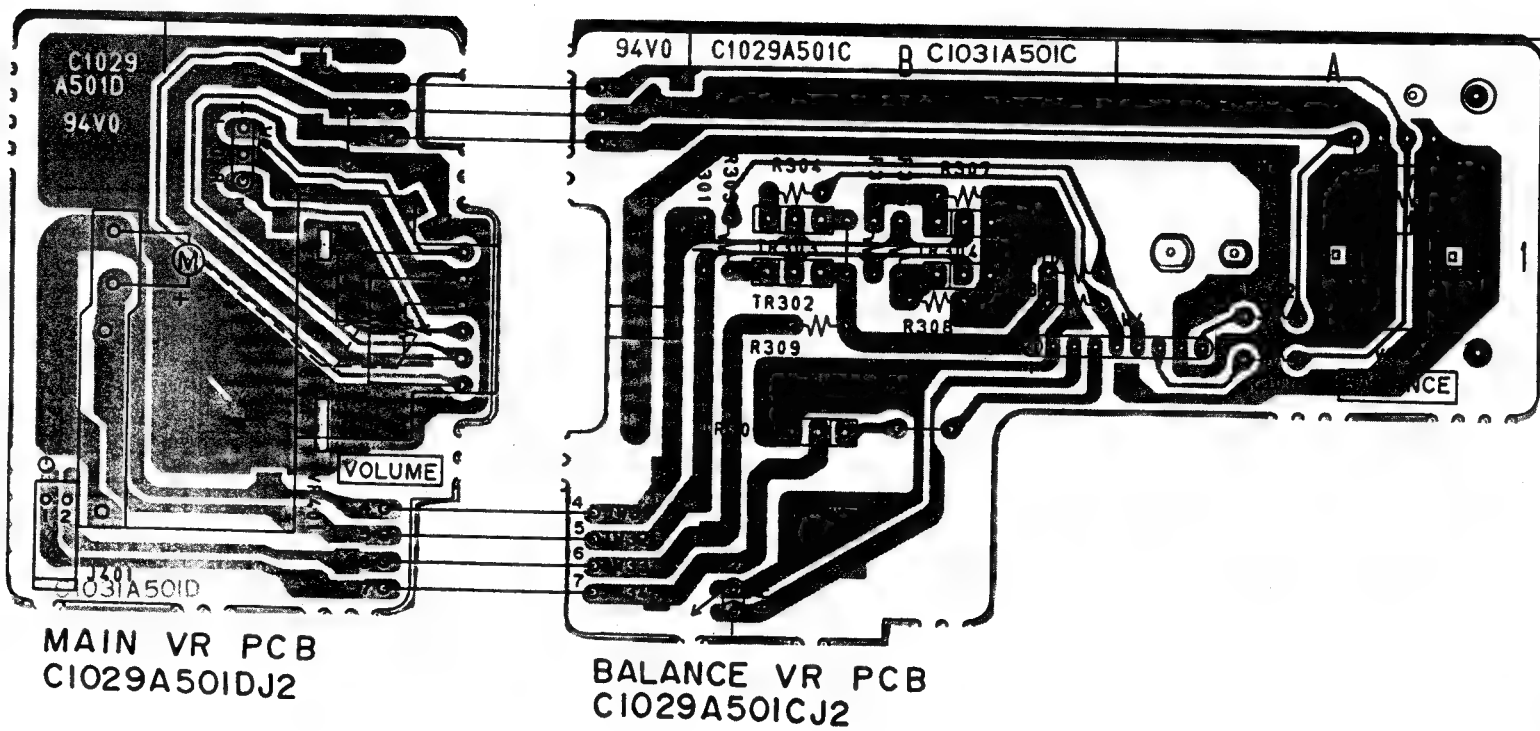


POWER SUPPLY PCB C1029A501BJ2

NOTE : PARTS DIFFER DEPENDING ON THE SCHEMATIC PARTS INFORMATION.

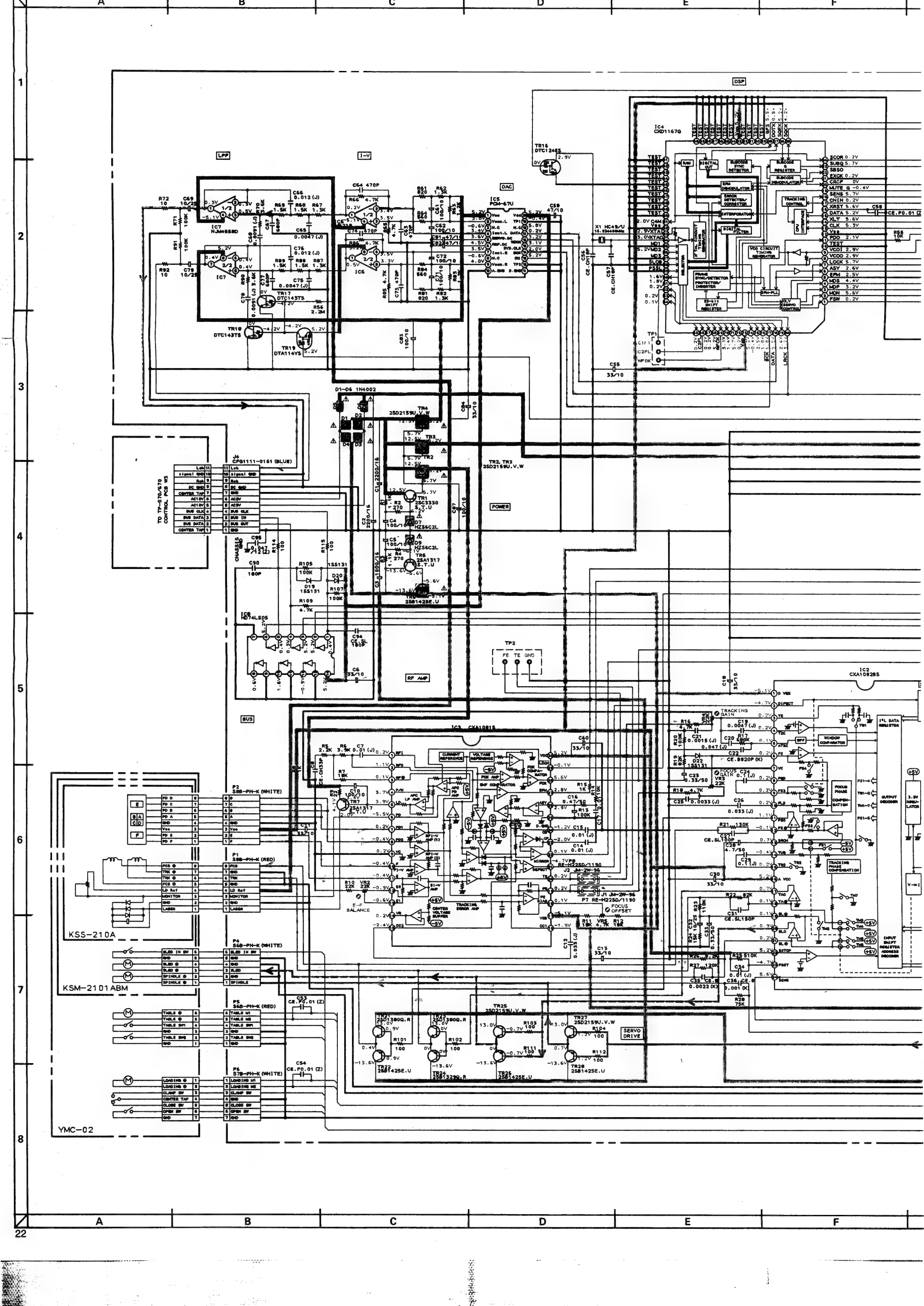
WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.



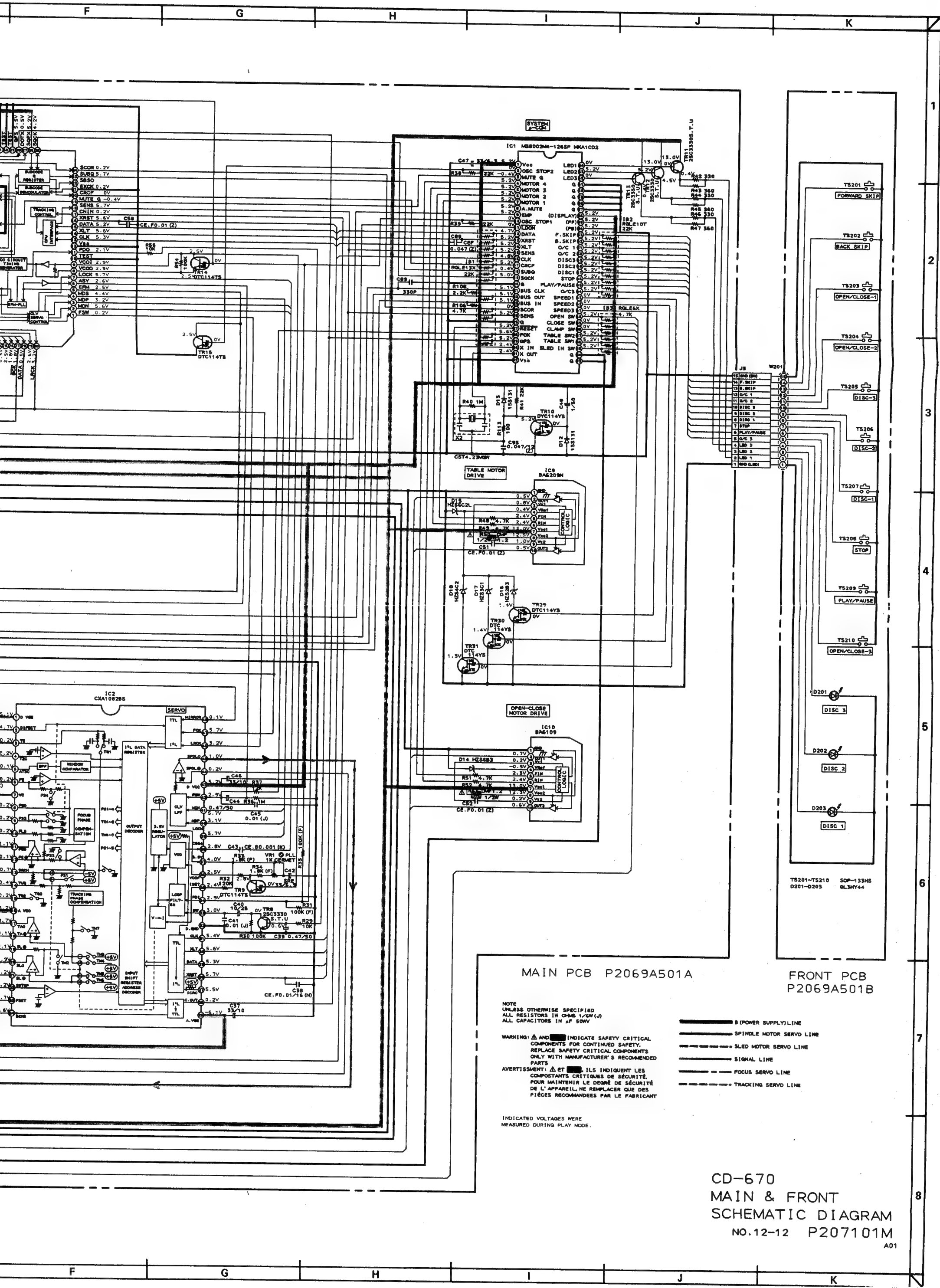
NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.



1
2
3
4
5
6
7
8

A B C D E F



MAIN PCB P2069A501A

FRONT PCB
P2069A501B

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN PF 50WV

WARNING: Δ AND \square INDICATE SAFETY CRITICAL
COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOMMENDED
PARTS

AVERTISSEMENT: Δ ET \square ILS INDICENT LES
COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ
DE L'APPAREIL, NE REMPLACER QUE DES
PIÈCES RECOMMANDÉES PAR LE FABRICANT

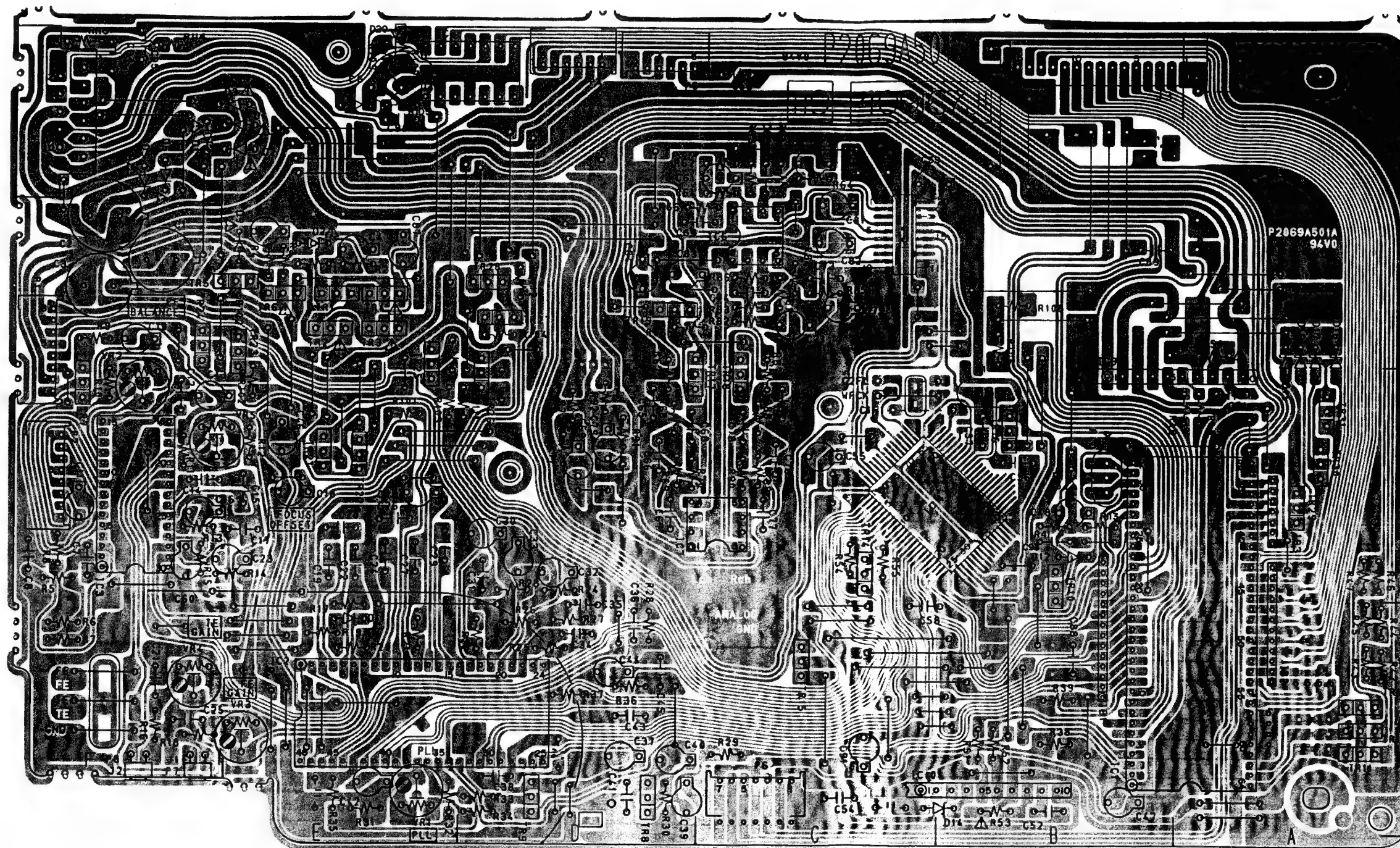
INDICATED VOLTAGES WERE
MEASURED DURING PLAY MODE.

——— B (POWER SUPPLY) LINE
----- SPINDLE MOTOR SERVO LINE
..... SLED MOTOR SERVO LINE
- · - · - SIGNAL LINE
- - - - - FOCUS SERVO LINE
- - - - - TRACKING SERVO LINE

CD-670
MAIN & FRONT
SCHEMATIC DIAGRAM
NO.12-12 P207101M
A01



FRONT PCB P2069A501B(J1)



MAIN PCB P2069A501A(J1)

PRINCIPAL PARTS LOCATION

ICs	
IC1	3,4A,B
IC2	4D,E
IC3	3F
IC4	3B,C
IC5	2C
IC6	2C
IC7	3C,D
IC8	1D,E
IC9	3A,B
IC10	4B,C

CONNECTORS

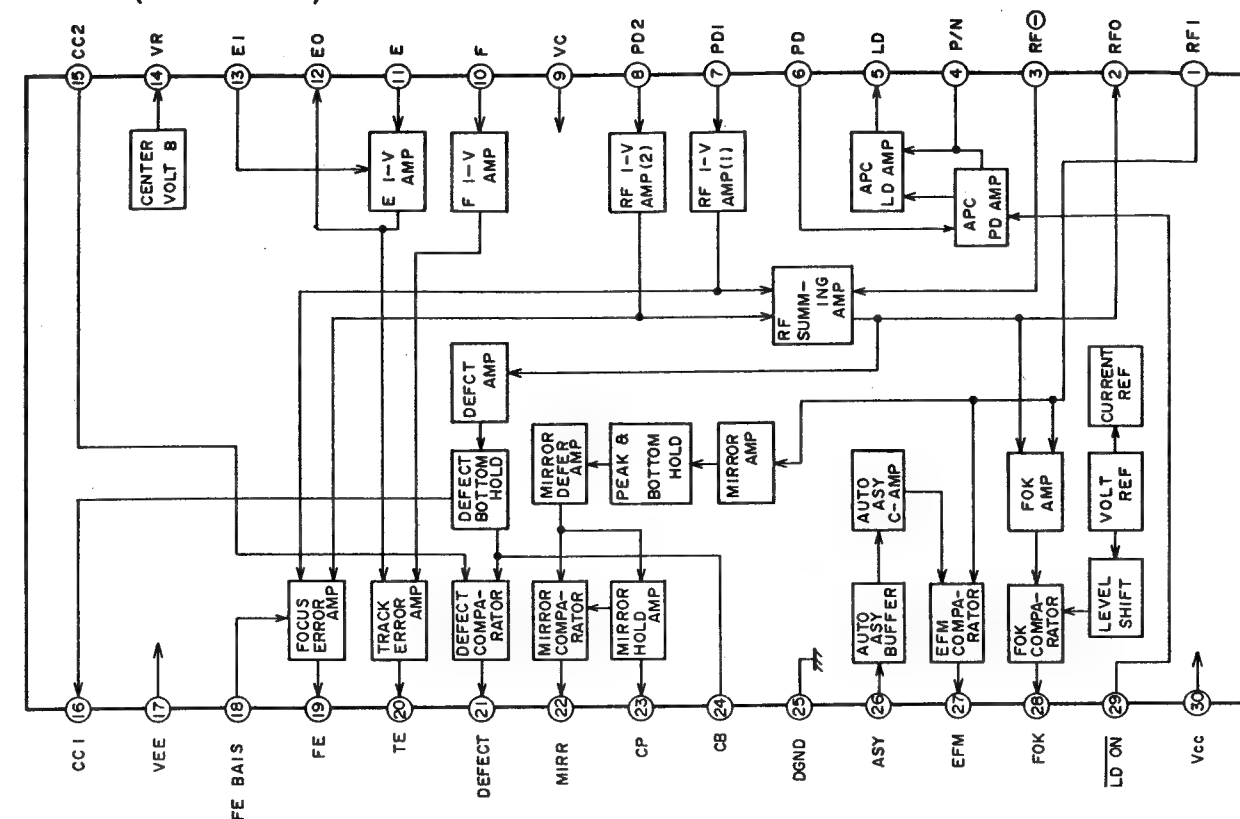
P1	2,3F
P2	3F
P4	1D
P5	1D
P6	4C
P7	4F
P8	4F

TRANSISTORS

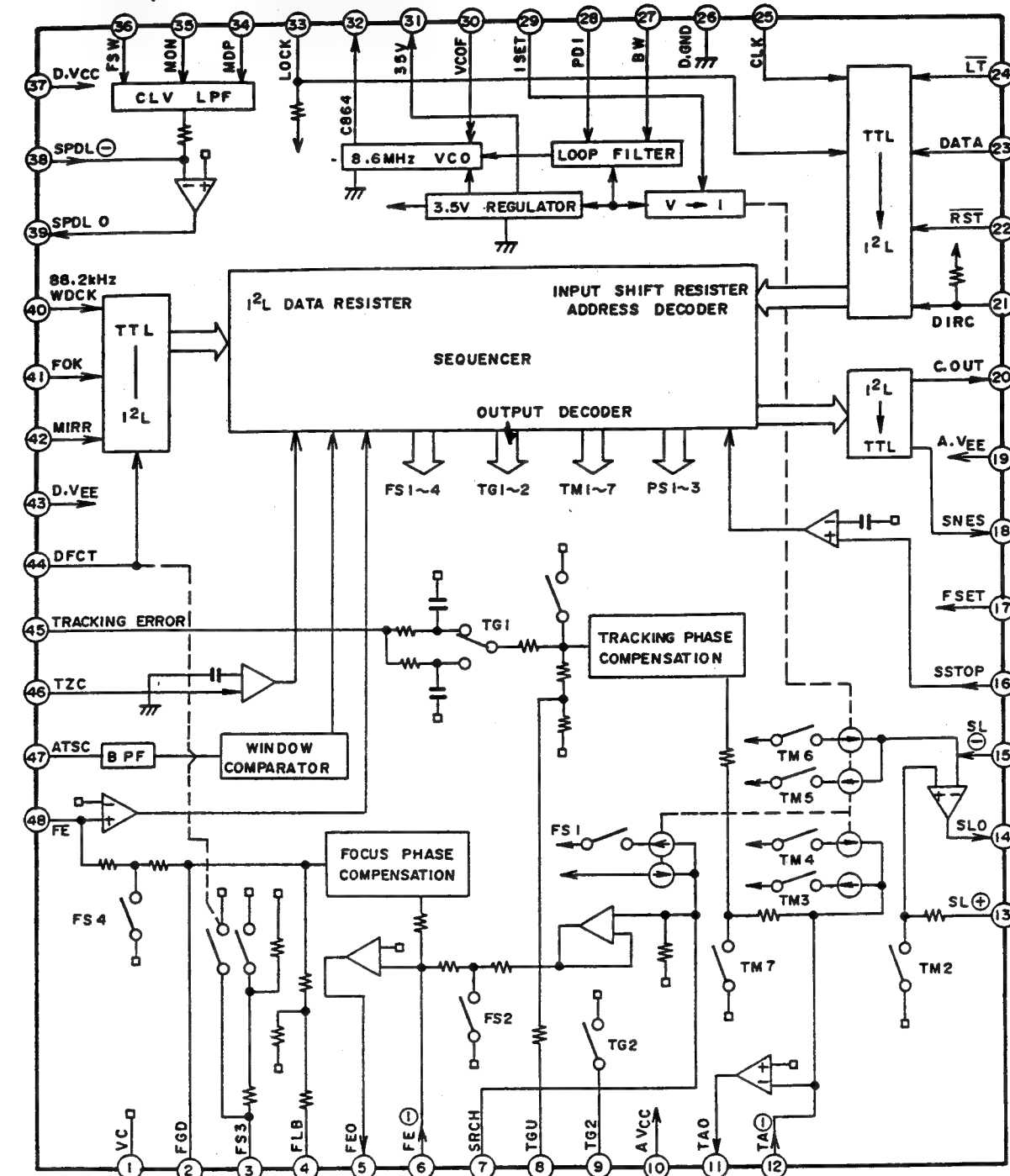
TR1	2E
TR2	2E
TR3	2E
TR4	2E
TR5	2E
TR6	2E
TR7	3F
TR8	4D
TR9	4D
TR10	3B
TR11	4A
TR12	4A
TR13	4A
TR14	3C
TR15	4C
TR16	3B
TR17	3D
TR18	3C
TR19	2D
TR21	3E
TR22	3E
TR23	2,3E
TR24	2F
TR25	2,3E
TR26	3D
TR27	2D
TR28	2D
TR29	3A
TR30	3A
TR31	3A

WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

CXA1081 (RF AMPLIFIER)


PIN NO.	SYMBOL	I/O	FUNCTION
1	RF1	I	RF SIGNAL FROM SUMMING AMP
2	RF0	O	RF SIGNAL OUT (EYE PATTERN CHECK POINT)
3	RF0	I	FEED BACK TO SUMMING AMP
4	P/N	—	NC
5	LD	O	AUTO POWER CONTROL OUT (TO LASER DIODE)
6	PD	I	AUTO POWER CONTROL IN (FROM PILOT DIODE)
7	PD1	I	A+C SIGNAL RF I-V AMP IN
8	PD2	I	B+D SIGNAL RF I-V AMP IN
9	VC	—	GND
10	F	I	TRACKING DIODE SIGNAL RF I-V AMP IN (F)
11	E	I	TRACKING DIODE SIGNAL RF I-V AMP IN (E)
12	E0	O	RF I-V AMP (E) OUT
13	E1	I	FEED BACK TO RF I-V AMP (E)
14	VR	—	NC
15	CC2	I	DEFECT BOTTOM HOLD IN
16	CC1	O	DEFECT BOTTOM HOLD OUT
17	VEE	—	-B
18	F·EBIAS	I	FOCUS OFF-SET VOLTAGE IN
19	FE	O	FOCUS ERROR OUT
20	TE	O	TRACKING ERROR OUT
21	DEFECT	O	DEFECT COMPARATOR OUT
22	MIRR	O	MIRROR COMPARATOR OUT
23	CP	I	CONNECT MIRROR HOLD CONDENSER
24	CB	I	CONNECT BOTTOM HOLD CONDENSER
25	DGND	—	GND
26	ASY	I	AUTO ASYMMETRY SIGNAL IN
27	EFM	O	EFM COMPARATOR OUT
28	FOK	O	FOCUS OK COMPARATOR OUT
29	LDON	I	LASER DIODE ON/OFF CONTROL IN
30	VCC	—	+B

CXA1082BS (SERVO SIGNAL PROCESSOR)


PIN NO.	SYMBOL	I/O	DESCRIPTION
1	VC	—	GND (0V)
2	FGD	—	Connect condenser for Focus servo gain control.
3	FS3	—	Focus servo gain select.
4	FLB	—	Connect condenser for Focus servo correction.
5	FE0	O	Focus drive output.
6	FE ⊖	I	FOCUS AMP. Inverting input.
7	SRCH	—	Connect condenser for Focus search wave.
8	TGU	—	Connect condenser for Tracking gain select.
9	TG2	—	Connect condenser for Tracking gain select.

PIN NO.	SYMBOL	I/O	DESCRIPTION
10	A.VCC	—	+5V
11	TA0	O	Tracking drive output.
12	TA \ominus	I	Tracking AMP. Inverting input.
13	SL \oplus	I	Slide motor non-inverting input
14	SLO	O	Slide motor drive output.
15	SL \ominus	I	Slide AMP. inverting input.
16	SSTOP	I	Not use (Holed "H" level).
17	FSET	I	Focus, Tracking compensation and CLV. LPF set up.
18	SENS	O	FZC. AS. TZC. SSTOP and BUSY output.
19	A. VEE	—	-5V.
20	C.OUT	O	Track count signal output.
21	DIRC	—	Not used
22	$\overline{\text{RST}}$	I	$\overline{\text{RESET}}$ Input.
23	DATA	I	Data signal input from CPU.
24	$\overline{\text{LT}}$	I	Lutch signal input from CPU.
25	CLK	I	Clock signal input from CPU.
26	D.GND	—	GND (0V).
27	BW	I	Connect condenser for Loop filter.
28	PDI	I	PDO signal from IC3 CXD1135Q (Pin 11).
29	ISSET	I	Focus search, Track jump and slide kick current input.
30	VCOF	I	Connect register for VCO frequency.
31	3.5V	O	+3.5V REG. output.
32	C864	O	8.64 MHz VCO output.
33	LOCK	I	LOCK signal from IC3 CXD1135Q (Pin 7)
34	MDP	I	MDP signal from IC3 CXD1135Q (Pin 3)
35	MON	I	MON signal from IC3 CXD1135Q (Pin 2)
36	FSW	I	Connect condenser for CLV servo error signal LPF.
37	DVcc	—	+5V
38	SPDL \ominus	I	Spindle drive AMP. inverting input.
39	SPDLO	I	Spindle drive output.
40	WDCK	I	Auto sequence clock signal input (88.2 kHz)
41	FOK	I	Focus OK signal input.
42	MIRR	I	MIRR signal input.
43	DVEE	—	-5V
44	DFCT	I	Defect signal input "H" active.
45	TE	I	Tracking error signal input.
46	TZC	I	Tracking zero cross comparator input.
47	ATSC	I	ATSC detect window comparator input.
48	FE	I	Focus error signal input.

CXD1167Q (DIGITAL SIGNAL PROCESSOR)

Pin No.	Symbol	I/O	Description
1	FSW	O	Spindle motor filter switching control
2	MON	O	Spindle motor ON / OFF control
3	MPD	O	Spindle motor speed and phase control
4	MDS	O	Spindle motor speed control
5	EFM	I	EFM signal input
6	ASY	O	EFM signal slice level control
7	LOCK	O	Slide motor over reach guard signal output
8	VCOO	O	VCO output (f = 8.6436 MHz)
9	VCOI	I	VCO input
10	TEST	I	0 V (GND)
11	PDO	O	Phase comp.output
12	VSS	—	GND (0V)
13	CLK	I	Clock signal input from CPU
14	XLT	I	Latch signal input from CPU
15	DATA	I	Serial data input from CPU
16	XRST	I	System reset input L : RESET
17	CNIN	I	Tracking pulse input
18	SENS	O	Output of CPU interface
19	MUTG	I	Mute control signal input
20	CRCF	O	CRC check data output of the subcode Q
21	EXCK	I	Not use (GND)
22	SBSO	O	Not use
23	SUBQ	O	Subcode Q output
24	SCOR	O	Subcode sync detection output
25	SQCK	I/O	Clock signal for subcode Q
26	SQEX	I	Select input of SQCK (+ 5V)
27	DOTX	O	Digital output
28	GFS	O	H : Frame sync lock L : Frame sync unlock
29	TEST	I	0V (GND)
30	TEST	I	0V (GND)
31	TEST	I	0V (GND)
32	TEST	I	0V (GND)
33	Vdd	—	+ 5V
34	TEST	I	0V (GND)
35	TEST	I	0V (GND)
36	TEST	I	0V (GND)
37	TEST	I	0V (GND)
38	TEST	I	0V (GND)
39	TEST	I	0V (GND)
40	TEST	I	0V (GND)
41	TEST	I	0V (GND)
42	TEST	I	0V (GND)
43	TEST	I	0V (GND)
44	TEST	I	0V (GND)
45	TEST	I	0V (GND)
46	TEST	I	0V (GND)
47	TEST	I	0V (GND)
48	TEST	I	0V (GND)
49	TEST	I	0V (GND)
50	TEST	I	0V (GND)
51	C4M	O	1 / 4 X'tal OSC output (f = 4.2336 MHz)
52	Vss	—	GND
53	XTAI	I	X'tal OSC input (f = 16.9344 MHz)
54	XTAO	O	X'tal OSC output (f = 16.9344 MHz)
55	MD1	I	Mode select input 1 0V (GND)
56	MD2	I	Mode select input 2 0V (GND)
57	MD3	I	Mode select input 3 + 5V
58	SLOB	I	Code select input for audio data 0V (GND)
59	PSSL	I	Mode select input for audio data 0V (GND)
60	APTR	O	Not use
61	APTL	O	Not use
62	C1F1	O	Not use
63	C1F2	O	Not use
64	C2F1	O	Not use
65	C2F2	O	Not use
66	C2FL	O	TP-C2FL
67	C2PO	O	Not use
68	RFCK	O	Not use
69	WFCK	O	TP-WFCK
70	PLCK	O	Not use
71	UGFS	O	Not use
72	GTOP	O	Not use
73	Vdd	—	+ 5V
74	RAOV	O	Not use

M38002M4 - 126SP MXA1CD2 (CD-670 SYSTEM CONTROL MI-COM)

Pin No.	PORT NAME	I/O	FUNCTION
1	VCC	—	+5 V power supply
2	OSC STOP 2	O	Oscillator control output for main CLOCK, VCO and PLL.
3	MUTE G	O	Output to stop audio data (H : mute on)
4	MOTOR 4	O	TRAY control output
5	MOTOR 3	O	TRAY control output
6	MOTOR 2	O	TRAY rotation control output
7	MOTOR 1	O	TRAY rotation control output
8	AUDIO MUTE	O	Not used
9	EMP	O	Emphasis control output
10	OSC STOP 1	O	Oscillator control output for main CLOCK, VCO and PLL.
11	LDON	O	Laser diode ON/OFF control output (H : laser off)
12	DATA	O	Command data output
13	XRST	O	Reset signal output
14	XLT	O	Latch signal output
15	SENS (CNTR)	I	Auto sequence end detection input
16	CLK	O	Clock signal output
17	CRCF	I	Input to detect Sub Code - Q CRC check
18	SUBQ	I	Input to detect Sub Code - Q data
19	SQCK	O	Reading clock out of Sub Code Q data
20	GND	—	GND
21	BUS CLK IN	I	Bus clock input from TP-570/670
22	BUS OUT	O	Bus data output to TP-570/670
23	BUS DATA IN	I	Bus data input from TP-570/670
24	SCOR	I	Sub code - Q data detect input
25	SENS	I	Auto sequence end detection input
26	GND	—	GND
27	RESET	I	Reset input
28	FOK	I	Focus lock detection input (H : Focus lock)
29	GFS	I	Input to detect PLL lock condition (H : lock on)
30	X IN	I	Main clock input
31	X OUT	O	Main clock output
32	VSS	—	GND
33 to 34	GND	—	GND
35	SLED IN SW	I	Input to detect pick up innermost position
36	TABLE SW 1	I	Input to detect turntable's disc position
37	TABLE SW 2	I	Input to detect turntable's disc position
38	CLAMP SW	I	Input to detect disc clamp position
39	CLOSE SW	I	Input to detect tray close position
40	OPEN SW	I	Input to detect tray open position
41	SPEED 3	O	TRAY rotation control output
42	SPEED 2	O	TRAY rotation control output
43	SPEED 1	O	TRAY rotation control output
44	OPEN/CLOSE 3	I	DISC3 OPEN/CLOSE operation switch input
45	PLAY/PAUSE	I	PLAY/PAUSE operation switch input
46	STOP	I	STOP operation switch input (to stop every movement and return PICK UP to start position)
47	DISC 1	I	DISC1 PLAY operation switch input
48	DISC 2	I	DISC2 PLAY operation switch input
49	DISC 3	I	DISC3 PLAY operation switch input
50	OPEN/CLOSE 2	I	DISC2 OPEN/CLOSE operation switch input
51	OPEN/CLOSE 1	I	DISC1 OPEN/CLOSE operation switch input
52	B. SKIP	I	BACK SKIP operation switch input
53	F. SKIP	I	FORWARD SKIP operation switch input
54	FB	I	Input for backward quick movement (Not used)
55	FF	I	Input for forward quick movement (Not used)
56	DISPLAY	I	Display control input (Not used)
57 to 61	GND	—	GND
62	LED 3	O	DISC 3 LED control output
63	LED 2	O	DISC 2 LED control output
64	LED 1	O	DISC 1 LED control output

Pin No.	Symbol	I/O	Description
75	C4LR	O	Not use
76	BCLK	O	Bit clock for input data
77	BCLK	O	Not use
78	DATA	O	Serial data output
79	WDCK	O	Word clock output
80	LRCK	O	L / R clock output

LC866008A-5199 MXA1GE1 (TP-670 FLD & GEQ CONTROL MI-COM)

Pin No.	PORT NAME	I/O	FUNCTION
1	BUS (DO)	O	Bus data output for tuner
2	BUS (DI)	I	Bus data input from tuner
3	BUS (CLK)	I	Bus clock input from tuner
4	DATA OUT	O	Electronic VR control data output
5	CLOCK	O	Electronic VR control clock output
6		—	Not used
7	MUTE	O	Mute control output (H : mute on)
8	FLD OFF	O	FLD / control output (H : FLD on)
9	TEST	—	Not used
10	RST	I	Reset input
11	XT 1	—	GND
12	XT 2	—	Not used
13	VSS	—	GND
14	CF 1	I	X'tal OSC
15	CF 2	O	X'tal OSC
16	VDD	—	+5 V
17	A/D 1	I	63 Hz / 160 Hz / 400 Hz / 1 kHz A/D convertor input
18	A/D 2	I	2.5 kHz / 6.3 kHz / 16 kHz / total A/D convertor input
19	POWER	I	Power key input (H : ON, Not used)
20	MEMO	I	Memory key input (H : ON, Not used)
21	G-EQ	I	G-EQ control mode on/off input (L : ON)
22	MODE	I	Mode change input (L : ON)
23	SOUND CHRT UP	I	Sound character ^ key input
24	SOUND CHRT DOWN	I	Sound character v key input (Not used)
25 to 40	DIGIT 16 to DIGIT 1	O	Digit data output
41	VDD	—	+5 V power supply
42	VP	—	−26 V power supply for FLD blanking
43 to 56	SEGMENT 1 to SEGMENT 14	O	Segment data output
57	LEVEL ^	I	Not used
58	LEVEL v	I	
59	BAND <	I	
60	BAND >	I	
61		—	
62		—	
63	ANA. SW 1	O	Analogue switch IC control output (frequency band)
64	ANA. SW 2	O	Analogue switch IC control output (frequency band)

M38173M6-155FP MXA1TP4 (TP-570/670 SYSTEM CONTROL MI-COM)

Pin No.	PORT NAME	I/O	FUNCTION
1	FB 2	O	Analogue switch IC control output (S.DIRECT & REC OUT)
2	FA 2	O	Analogue switch IC control output (S.DIRECT & REC OUT)
3	VR UP	O	Main VR control (UP) output (H : UP)
4	VR DOWN	O	Main VR control (DOWN) output (H : DOWN)
5	FB 3	O	Analogue switch IC control output (SUPER BASS)
6	DECK CLK	O	DECK bus clock output
7	DECK DATA OUT	O	DECK bus data output
8	DECK DATA IN	I	DECK bus data input
9	FA 3	O	Analogue switch IC control output (SUPER BASS)
10	CD CLK	O	CD bus clock output
11	CD DATA OUT	O	CD bus data output
12	CD DATA IN	I	CD bus data input
13	G-EQ CLK	O	G-EQ bus clock output (TP-670 only)
14	G-EQ DATA OUT	O	G-EQ bus data output (TP-670 only)
15	G-EQ DATA IN	I	G-EQ bus data input (TP-670 only)
16	FC 1	O	Analogue switch IC control output (INPUT SELECT)
17	FB 1	O	Analogue switch IC control output (INPUT SELECT)
18	FA 1	O	Analogue switch IC control output (INPUT SELECT)
19	FLD OFF	O	FL display off output (L : OFF)
20	POWER LED	O	Power LED (orange) control output (Not used)
21	AMP MUTE	O	Pre amp mute control output (H : MUTE ON)
22	POWER MUTE	O	Power IC mute & VR LED control output (L : MUTE ON)
23	MUTE LED	O	Power mute LED (red) control output (Not used)
24	FM A/M	O	FM auto/mono control output
25	POWER DOWN	I	Power down detection input
26	REMOCON	I	REMOCON signal detection input
27	RESET	I	Reset input
28	XC IN	I	X'tal OSC
29	XC OUT	O	
30	X IN	I	
31	X OUT	O	
32	VSS	-	GND
33	TUNER MUTE	O	Tuner muting control output (H : MUTE ON)
34	PLL STRQ	O	PLL control output
35	PLL STIN	I	PLL control input
36	PLL CE	O	PLL control output
37	PLL CLK	O	PLL control output
38	PLL DATA	O	PLL control output
39	K 1	I	Key scan input 1
40	K 0	I	Key scan input 0
41	SB	O	Super BASS LED control output
42	SD	O	SOURCE DIRECT LED control output
43 to 52	DIG 9 to DIG 0	O	Digit data output for FLD
53 to 72	SEG 19 to SEG 0	O	Segment data output for FLD
73	VCC	-	+5 V
74	VEE (VP)	-	Negative power supply terminal for FLD blanking
75	AVSS	-	GND for A/D
76	VREF	-	+5 V for A/D
77	TUNED	I	TUNED display input from tuner (3.2V > : ON)
78	STEREO	I	STEREO display input from tuner (4.0V > : ON)
79	CD POWER OFF	O	CD power off output (H : OFF)
80	FC 2	O	Analogue switch IC control output (S. DIRECT & REC OUT)

PCM-67U (DUAL 18 BIT SERIAL INPUT D/A CONVERTOR)

Pin No.	PORT NAME	I/O	FUNCTION
1	+VCC	—	Analogue positive power supply terminal
2	VCOM (L)	—	L-ch V common terminal
3	N. C	—	No connection
4	I-OUT (L)	O	L-ch current output terminal
5	SERVO DC	—	Servo filter (capacitor connecting terminal)
6	REF DC	—	Reference filter (Capacitor connecting terminal)
7	I-OUT (R)	O	R-ch current output terminal
8	N. C	—	No connection
9	VCOM (R)	—	R-ch V common terminal
10	A. GND	—	Analogue ground
11	D. GND	—	Digital ground
12	TP2	—	Test terminal 2
13	DATA (R)	I	R-ch data input terminal
14	BCK	I	Bit clock input terminal
15	SYS-CLK	I	System clock input terminal
16	WDCK	I	Word clock input terminal
17	DATA (L)	I	L-ch data input terminal
18	RSVD	—	Reserved
19	TP1	—	Test terminal 1
20	+VDD	—	Digital positive power supply terminal

μPD75108CW (AX-570/670 SYSTEM CONTROL MI-COM)

Pin No.	PORT NAME	I/O	FUNCTION
1	PLAY-II	I	Tape II head position detect input
2	PACK-II	I	Tape II pack detect input
3	AR-REV-II	I	Tape II reverse recording inhibit input
4	120 μ/70 μ-II	I	Tape II 120 μs/70 μs detect switch input (L : 120 μs)
5	AR-FWD-II	I	Tape II forward recording inhibit switch input
6	PLAY I	I	Tape I head position detect switch input
7	PACK I	I	Tape I pack detect switch input
8	120 μ/70 μ-I	I	Tape I 120 μs/70 μs detect switch input (L : 120 μs)
9	REEL-II	I	Tape II reel pulse input
10	REEL-I	I	Tape I reel pulse input
11	x 1 PB 70 μs	O	Normal speed playback EQ switching output
12	x 2 PB 70 μs	O	x 2 speed playback EQ switching output
13	PB MUTE	O	Playback mute control output
14	CROSS	O	CROSS EDIT control output
15	DATA IN	I	Bus serial data input
16	DATA OUT	O	Bus serial data output
17	CLK IN	I	Bus clock input
18	BOP	I	Music Interval detection signal input (L : Boundary of the music)
19	PB TAPE I	O	TAPE I playback switching control output
20	PB TAPE II	O	TAPE II playback switching control output
21	HEAD REC/PB	O	HEAD recording/playback control output (L : playback)
22	MECHA. POWER	O	Capstan motor power supply control output
23	MOTOR x 1/ x 2-I	O	Tape I capstan motor speed control output (L : x 1, H : x 2)
24	PL COMMON	O	Tape I & II plunger ON/OFF control output
25	PL-I	O	Tape I plunger ON/OFF control output
26	x 2 PB PEAK	O	For x 2 speed playback peaking frequency switching
27	MOTOR x 1/ x 2-II	O	Tape II capstan motor speed control output (L : x 1, H : x 2)
28	PL-II	O	Tape II plunger ON/OFF control output
29	FWD LAMP-II	O	TAPE II ► LAMP control output
30	FWD LAMP-I	O	TAPE I ► LAMP control output
31	VCC	-	+5 V power supply
32	VDD	-	+5 V power supply
33	x 1 DUBBING LAMP	O	x 1 DUBBING LAMP control output
34	REV LAMP-I	O	TAPE I ◄ LAMP control output
35	REC PAUSE LAMP	O	REC PAUSE LAMP control output
36	x 2 DUBBING LAMP	O	x 2 DUBBING LAMP control output
37	REV LAMP-II	O	TAPE II ◄ LAMP control output
38	TAPE II LAMP	O	TAPE II LAMP control output
39	TAPE I LAMP	O	TAPE I LAMP control output
40	MAIN VR LAMP	O	MAIN VR LAMP control output
41	TAPE II	I	TAPE II operation input (L : ON)
42	TAPE I	I	TAPE I operation input (L : ON)
43	x 1 DUB	I	x 1 SPEED DUBBING (L : ON)
44	x 2 DUB	I	x 2 SPEED DUBBING (L : ON)
45	RESET	I	Reset signal input
46	x 2	O	Main clock output
47	x 1	I	Main clock input
48	REW	I	Rewind operation switch input (L : ON)
49	REV	I	Reverse operation switch input (L : ON)
50	STOP	I	Stop operation switch input (L : ON)
51	FWD	I	Forward operation switch input (L : ON)
52	FF	I	Fast forward operation switch input (L : ON)
53	REC PAUSE	I	REC PAUSE operation switch input (L : ON)
54	AUTO MUTE	I	AUTO MUTE operation switch input (L : ON)
55	POWER SW	I	Power switch ON/OFF input
56	PACK MUTE	O	PACK MUTE control output
57	DOLBY REC/PB	O	DOLBY recording/playback control output
58	REC MUTE	O	REC MUTE control output (L : MUTE ON)
59	x 2 REC PEAKING	O	For X2 speed recording peaking frequency switching
60	REC CrO2	O	CrO2 tape recording EQ switching output (H : CrO2 tape)
61	FADE	O	FADE EDIT control output
62	OSC	O	Bias OSC ON/OFF control output (H : OSC ON)
63	x 1 REC PEAKING	O	For normal speed peaking frequency switching
64	VSS	-	Ground